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ABSTRACT

During the 1980s, AIDS emerged as a leading cause of death among young adults. Subsequently, no college or university can expect to escape from this problem. These collected articles were targeted for university, and health-science-center administrators. The information contained here is grouped under eight headings. Section 1, the medical background, examines definitions, modality, and mortality among AIDS patients. The next chapter, the legal background, details AIDS and the Rehabilitation Act of 1973, along with other legal issues, such as litigation. Chapter 3 offers guidelines and updates on information provided by the Centers for Disease Control, while section 4 features position statements by groups like the American Medical Association, American Dental Association, and the Association of American Medical Colleges. Sections 5 and 6 address occupational safety and health issues and concerns surrounding the HIV-infected health-care worker. Student educational matters are covered in the next chapter with articles on AIDS transmission and the epidemic itself. The last section contains sample policies which universities can use for constructing their own AIDS guidelines. Each topic features additional resources readers may pursue to expand their knowledge of this disease. (RJM)

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AIDS On Campus: A Legal Compendium

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AIDS ON CAMPUS: A LEGAL COMPENDIUM

Edited by

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National Association of College
and University Attorneys

1991

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Users of this publication should be reminded that the information given here is general in nature, and is not intended as legal advice. Legal counsel should be consulted concerning the legal effects and ramifications of specific actions, questions, and situations.

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PREFACE

Challenging. Sobering. Compelling. These words describe the AIDS epidemic. They also describe the task of editing a Compendium on AIDS.

The scientific and medical understanding of AIDS and HIV infection continues to evolve -- almost daily. Approximately 1,000 new articles are published each month on the scientific, medical, legal, ethical, policy and social aspects of AIDS and HIV infection. I was not able to read them all. I did, however, read enough of them to know that this Compendium does not begin to include all of the articles worth reading. I chose those articles, therefore, which I thought would be of greatest value to college, university and health science center administrators.

I believe that, as of today, the Compendium contains the most current available information about AIDS and HIV infection. I also believe that, by the time you read this Preface, the Compendium will already be out-of-date. That, if course, is the inevitable result of the rapid advances society is making in its knowledge and understanding of this epidemic. I have included, however, names, addresses, and telephone numbers in the "Additional Resources" sections of the Compendium to assist you in better keeping abreast of new developments.

I wish that a compendium entitled AIDS on Campus was not necessary. Unfortunately, it is. During the 1980s, AIDS emerged as a leading cause of death among young adults. An estimated 1 million people in the United States are now infected with HIV. Approximately 200,000 of them will die within the next three years. Given such staggering statistics, no college or university can expect to escape from this problem unscathed.

May we all be blessed with wisdom, courage and compassion as we continue to struggle with the AIDS epidemic.

Leslie Chambers Strohm
Editor
May 1991

TABLE OF CONTENTS

PREFACE. 3

I. THE MEDICAL BACKGROUND

1. "What is AIDS?," an excerpt from the Stanford University brochure, AIDS in the Workplace 13

2. "Scientific and Medical Summary of HIV Infection," Association of American Medical Colleges Committee on AIDS and the Academic Medical Center 17

3. "First 100,000 Cases of Acquired Immunodeficiency Syndrome -- United States," MMWR August 18, 1989 33

4. "Mortality Attributable to HIV Infection/AIDS -- United States, 1981-1990, MMWR January 25, 1991 35

5. Additional Resources 39

II. THE LEGAL BACKGROUND

1. Select Provisions of the Rehabilitation Act of 1973, 29 U.S.C. Sec. 701 et seq. 43

2. Department of Health and Human Services Regulations Implementing Section 504 of the Rehabilitation Act of 1973, 45 C.F.R. Part 84 47

3. Department of Education Regulations Implementing Section 504 of the Rehabilitation Act of 1973, 34 C.F.R. Part 104 59

4. Select Provisions of the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12101 et seq. 63

5. "Legal Update on AIDS and AIDS-Related Litigation," by Frederick G. Savage 75

6. "Update on Legal Issues Related to AIDS for Medical Centers," by Melinda A. Agsten 83

7. "Annual Update of AIDS-Related Caselaw," by Peter C. Wolk 95

8. "The AIDS Litigation Project -- A National Review of Court and Human Rights Commission Decisions, Part I -- The Social Impact of AIDS," by Lawrence O. Gostin 103

9. "The AIDS Litigation Project -- A National Review of Court and Human Rights Commission Decisions, Part II -- Discrimination," by Lawrence O. Gostin 113

10. Additional Resources 121

III. SELECT CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

1. "Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the Workplace, MMWR, November 15, 1985 127

2. "Public Health Service Guidelines for Counseling and Antibody Testing to Prevent HIV Infection and AIDS," MMWR, August 14, 1987 137

3. "Recommendations for Prevention of HIV Transmission in Health-Care Settings," MMWR, August 21, 1987 145

4. "Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers," MMWR, April 22, 1988 161

5. "Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-Care Settings," MMWR, June 24, 19988 167

6. "Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers," MMWR, June 23, 1989 175

7. Additional Resources 203

IV. ASSOCIATION POSITION STATEMENTS

1. "Responding to HIV Infection and AIDS: Campus Assessment Inventory," Inter-Association Task Force on HIV Infection and AIDS 209

2. "General Statement on Institutional Response to AIDS," American College Health Association 213

3. "Policy Guidelines for Addressing HIV Infection in the Academic Medical Community," Association of American Medical Colleges 219

4. "Resolutions Adopted at the 1991 Annual Session," American Association of Dental Schools 237

5. "Ethical Issues Involved in the Growing AIDS Crisis," American Medical Association, Council on Ethical and Judicial Affairs 239

6. "AMA Statement on HIV- Infected Physicians," American Medical Association 241

7. "Revised Recommendations for HIV-Infected Dentists," American Dental Association 243

8. Additional Resources 245

V. OCCUPATIONAL SAFETY AND HEALTH ISSUES

1. "Proposed Standard re Occupational Exposure to Bloodborne Pathogens," excerpts from 54 F.R. 23042 (May 30, 1989) 249

2. Department of Labor Agenda for Issuing a Final Rule Regarding Occupational Exposure to Bloodborne Pathogens, 55 F.R. 44724 (October 29, 1990) 255

3. "Enforcement Procedures for Occupational Exposure to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV)," OSHA Instruction CPL 2-2.44B (February 27, 1990) 257

4. "Public Health Service Statement on Management of Occupational Exposure to Human Immunodeficiency Virus, Including Considerations Regarding Zidovudine Postexposure Use," MMWR, January 26, 1990 287

5. Additional Resources 301

VI. THE HIV-INFECTED HEALTH-CARE WORKER

1. "Possible Transmission of Human Immunodeficiency Virus to a Patient during an Invasive Dental Procedure, MMWR July 27, 1990 . . . 307

2. "Update: Transmission of HIV Infection during an Invasive Dental Procedure - Florida, MMWR January 18, 1991 313

3. Draft: Estimates of the Risk of Endemic Transmission of Hepatitis B Virus and Human Immunodeficiency Virus to Patients by the Percutaneous Route during Invasive Surgical and Dental Procedures," U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, January 30, 1991 321

4. "Position Paper: The HIV-Infected Health-Care Worker," by Dr. David K. Henderson 341

5. "HIV-Infected Physicians and the Practice of Seriously Invasive Procedures," by Lawrence O. Gostin 351

6. "Management Considerations for an HIV Positive Dental Student," by Dr. Robert W. Comer, Dr. David R. Myers, Clayton D. Steadman, Dr. Mary Jo Carter, Dr. J. Peter Rissing, and Dr. Francis J. Tedesco 359

7. Washington University Checklist for Responding to the Knowledge that a Dental Student was Infected with HIV 365

8. Excerpt from Washington University Reply to the Brief filed in Opposition to its Motion for Summary Judgment 369

9. Additional Resources 375

VII. STUDENT EDUCATIONAL ISSUES

1. "Susceptibility to AIDS: What College Students Do and Don't Believe," Diane Manning, Paul M. Balson, Naomi Barenberg and Tracy Mizell 381

2. "The HIV Epidemic and Training in Internal Medicine," The New England Journal of Medicine 389

3. Additional Resources 395

VIII. SAMPLE POLICIES

General Campus Policies

1. _______ University Statement on AIDS 399

2. Idaho State University, "Statement on AIDS and Other Communicable Diseases" 401

3. Stanford University, "AIDS in the Workplace" 403

4. Washington University Hilltop Campus Policy on AIDS 411

5. West Virginia University Policy and Guidelines -- AIDS 419

Health Science Campus Policies

1. _______ University HIV/AIDS Workplace Guidelines [Excerpt] 423

2. Cornell University Medical College Policy for Management of Needlestick and Bodily Fluid Exposure 427

3. Northeastern Ohio Universities College of Medicine, Policy Regarding Infectious Diseases or Conditions 459

4. University of Minnesota Hospital and Clinic, "Management of Potentially Infectious Personnel;" "Needlestick or Other Significant Exposure to Blood or Other Body Fluids;" "HIV Control" 467

5. Stanford University Medical Center AIDS Guidelines 479

6. Washington University Medical Campus Policy on AIDS 495

7. West Virginia University Health Science Center AIDS Policy 515

THE MEDICAL BACKGROUND

AIDS

in the WORKPLACE

This brochure has been put together to provide the Stanford Community with information about the Acquired Immune Deficiency Syndrome (AIDS). It is estimated that by the early 1990's 90% of the two million Americans who have been exposed to the virus will develop AIDS. AIDS affects everyone — including people who are a part of the Stanford Community. Misinformation and fear of this disease can lead not only to the further spread of the disease, but also to discrimination. It is important to the University that we maintain a workplace which is free from discrimination, including against people with the HIV virus.

The University believes that the rights and concerns of those who have AIDS, Aids Related Complex (ARC), or the HIV virus should be respected and ensured. Education, understanding and compassion on the part of every faculty and staff member are crucial if we are to deal effectively and responsibly with this issue.

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Guidelines
for
Stanford
University

WHAT IS AIDS?

Acquired Immune Deficiency Syndrome (AIDS) is a serious condition characterized by a defect in the natural immunity against disease. This defect is caused by infection with the Human Immunodeficiency Virus (HIV). Typically a person has no symptoms of AIDS for years after contracting the HIV infection, but then develops unusual infections or tumors not usually seen in otherwise healthy persons. The disease we call AIDS is the end stage of the chronic HIV viral infection. It is important to remember that AIDS itself is not transmitted; the HIV virus is.

HIV infection may be present in an individual in three ways:

> Persons may have no symptoms but be **HIV positive** which means that they have been exposed to the virus and carry it in their system. Although they have not developed any of the illnesses or infections associated with AIDS, it is possible for them to pass the virus on to other people.
>
> Persons may have **AIDS Related Complex (ARC)** which means that they have developed some symptoms of chronic HIV infection such as swollen lymph glands, night sweats, diarrhea or fatigue. They have not developed one of the life-threatening diseases that characterizes AIDS. In time, most if not all persons with ARC will progress to the full-blown disease, AIDS.
>
> A person has **AIDS** when the defect in his or her immune system, caused by chronic HIV infection, has progressed to such a degree that an unusual infection or tumor has occurred. In AIDS patients, a number of diseases are known to take advantage of the damaged immune system. These include "opportunistic" infections with other viruses, fungi or parasites, or the development of tumors such as Karposi's sarcoma, a form of skin cancer, or lymphoma, a malignancy of the lymph glands. It is the presence of one of these "opportunistic" diseases that establishes the medical diagnosis of AIDS.

The AIDS virus is not transmitted through casual contact. You cannot get AIDS from daily and routine activities such as sitting next to someone or shaking hands with someone who has AIDS, or from working with people who have AIDS. It is not spread by insects or insect bites. AIDS is not transmitted by swimming pools, public transportation, food, cups, glasses, plates, toilets, water, air, touching or hugging, coughing or sneezing.

AIDS is transmitted in four general ways:

1. Through intimate sexual contact from an infected person to his or her sexual partner, when semen, blood or vaginal fluids are exchanged.

2. Through infected blood or blood products. The risk is vanishingly small now that all blood donors are screened for the presence of HIV antibodies. ***You cannot get AIDS from giving blood.***

3. Through contaminated needles or any other HIV contaminated skin-piercing instrument.

4. From an infected mother to her infant before, during or shortly after birth.

People who have the virus present in their system, but have no physical symptoms of ARC or AIDS are capable of transmitting it to others.

WHAT ARE THE CHANCES OF GETTING AIDS AT WORK?

With the exception of health care workers who might come into direct contact with blood or other bodily fluids from persons infected with the virus and for those working in laboratories where research with the HIV virus is being conducted, there is no known risk of transmission of the AIDS virus in work settings such as exist at Stanford University.

Appendix B

SCIENTIFIC AND MEDICAL SUMMARY OF HIV INFECTION

Prepared for the AAMC
Committee on AIDS and
the Academic Medical Center

by

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Introduction

The acquired immunodeficiency syndrome was first described in 1981 when it was recognized that young homosexual males appeared to be at risk for the development of unusual opportunistic infections and a particularly malignant form of Kaposi's sarcoma (1,2). The common theme which united these seemingly diverse clinical entities was a characteristic immunologic defect in which there is a profound deficit in cell-mediated immune function (3). In 1983 the cause of the immunologic deficit was identified—a T-lymphocytotropic virus which is now termed HIV or human immunodeficiency virus (4,5).

Epidemiology

Since the onset of the epidemic there have been more than 60,000 cases of AIDS identified in the United States (6). These cases represent the very tip of the iceberg of HIV infection. Estimates of total number of infected individuals in the United States range from 1.4 to more than 2.0 million persons (7). In east and central Africa the seroprevalence may be as high as 10% (8).

In the United States the disease has been identified predominantly in homosexuals, intravenous drug abusers and sexual partners of these two risk groups (9). There are several risk factors which appear to predispose to infection (10). Foremost among these is the number of sexual partners. Seropositive individuals have a significantly greater number of sexual partners than their seronegative counterparts. Other risk factors include receptive anal intercourse, presence of other sexually transmitted disease and possibly genetic factors (10).

Heterosexual transmission of HIV occurs, most commonly male-to-female (10). Female-to-male transmission has also been reported although much less frequently. It has been estimated that by 1991 10% of all AIDS cases will be heterosexually transmitted (11).

Children of infected mothers, and recipients of blood or blood products have also been identified as groups at risk for acquiring HIV (10). The recent development of ELISA tests for detecting HIV antibody in blood has reduced, but not totally eliminated, the risk of acquiring HIV through blood or blood products (12).

The prevalence of HIV in various populations depends upon a number of factors which include age, race, locale, and socioeconomic group (11,13-15). In the self-selected population of volunteer blood donors the prevalence of HIV seropositivity is 0.04% (16). Substantially higher prevalence rates have been noted in other populations. Among gay individuals in the Midwest the prevalence rate is 5%; in San Francisco 70% of gay men are seropositive. Similarly, there is a geographic distribution among intravenous drug abusers. In Newark 75% are infected as opposed to 5% in the Midwest.

Among military recruits a prevalence rate of 0.15% was found (13). This prevalence rate increased linearly between the ages of 18 and 27. Blacks had the highest antibody prevalence (0.39%). The prevalence rate was lower, 0.079%, among those applicants that lived in rural counties than from those applicants from high density counties, 0.57%. As might be expected, a statistically significant correlation existed between HIV seropositivity and the state-specific incidence of AIDS.

A survey from an inner city hospital emergency room revealed a prevalence rate of 5.2% among 2302 consecutive adult patients (14). The seropositivity rate was 13% among the 276 individuals with recognized risk factors whereas 3.1% of those patients with unknown risk factors were positive. None of 102 patients who reported no risk factors was positive.

An identical prevalence rate (5.2%) was noted at a sexually transmitted disease clinic in the same city (15). The most commonly identified risk factor in both men and women was parenteral drug use. No risk factor was acknowledged in 34% of men and 49% of women who were seropositive.

The results of these epidemiologic surveys indicate that among individuals without acknowledged risk factors the group at highest risk for HIV infection is black inner-city males in their late 20s–30s who live in recognized AIDS endemic areas of the United States.

There is considerable concern regarding the risk of nosocomial acquisition of HIV infection by health care workers. As of April 22, 1988 there had been 2,586 health care workers with AIDS reported to the Centers for Disease Control (CDC) (17). This represents 5.4% of all AIDS cases. The proportion of health care workers in the U.S. labor force is 5.7%. The vast majority of health care workers with AIDS belong to recognized risk groups. More than 87% were homosexual, bisexual, and/or intravenous drug abusers. There has been one case of AIDS following needlestick exposure. As noted in the next section there have been several additional cases of HIV infection among health care workers following needlestick or other work-related exposures.

Among the group of health care workers with AIDS there were 135 individuals with undetermined risk factors. Following epidemiologic investigation 41 of these could not be assigned to any risk group. Of these individuals 68% were male; 23% of all persons employed in health services are male. Seventeen reported needlestick or mucus membrane exposures.

Transmission

HIV can be spread by three routes: sexual contact, parenteral inoculation and perinatal transmission (10). There is substantial evidence to suggest that casual transmission does not occur. Routine non-sexual exposure to persons with AIDS does not constitute a risk factor for development of HIV infection (18).

There is a remote, but real risk of acquiring HIV infection by transfusion of blood that has been screened as seronegative (12). There are several possible explanations which could account for HIV-infected blood testing seronegative. Obviously, a false negative ELISA test can result from laboratory error, but there are other conditions in which infected blood could be seronegative. A recently infected patient may not have had time to develop HIV antibodies that can be detected by the screening test (19). In addition, several patients have been described who have prolonged or persistently negative tests due to viral latency (20,21). The infectious potential of this latter group is not defined.

Although the ELISA test is very sensitive (⩾99%), a small proportion of samples will test falsely negative (22). This may have a substantial impact when multiplied by the 18,000,000 units of blood components transfused annually. Based on the sensitivity of the ELISA tests and the prevalence of HIV it is estimated that 72-90 individuals will be infected with HIV annually despite screening of all transfused bloods. Considering the effect of new infections, one worst case scenario suggested as many as 460 recipients of transfused blood will become infected with HIV.

Since the onset of the epidemic volunteer blood donors have been asked to refrain from donating blood if they perceive that they may be in any high-risk group. Such a program reduces the transfusion risk, but it is not likely to be totally effective. The development of newer more sensitive assays for detecting HIV antigens, or antibodies earlier in the course of infection may help to reduce the risk associated with transfusion.

An issue of concern to the medical community is the potential risk associated with exposure to body fluids. HIV has been isolated from a variety of body fluids including blood, semen, cervical secretions, saliva and tears (23). The single most important source of HIV remains blood and a major focus of the recommendations regarding prevention of transmission of HIV in the health care setting have focused on the exposure of the individual to contaminated blood products.

The current recommendations for prevention of occupational transmission of HIV incorporate the use of universal precautions which are extended to all patient contacts since it is impossible to determine the HIV status of each and every individual at the time of first presentation to the health care delivery system (24). The Centers for Disease Control have recommended that universal precautions apply to exposure to semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, and pericardial fluids as well as blood and serum.

Universal precautions include the use of gloves, gowns, masks and protective eyewear in situations where exposure to blood or other possibly infectious secretions is a consideration. While the use of these protective barriers will reduce exposure to secretions and spilled blood they will not prevent penetrating injuries caused by needles and other sharp instruments. This fact, coupled with anecdotal reports of occupational transmission of HIV, has caused considerable concern among health care workers and dictates the need for rational approaches to infection control issues regarding HIV.

The risk of occupational transmission of HIV appears to be statistically low. In an ongoing study by the CDC 4 of 870 health care workers have seroconverted following needlestick exposure (17). Seroconversion within 6 months of the needlestick episode occurred in 3 of 489 individuals (0.6%). No nonoccupational risk factors were identified in these individuals.

There have been no seroconversions among 103 individuals who have had needlestick exposure and 691 with skin or mucus membrane exposures followed at the National Institutes of Health (17). One seroconversion has been reported from 235 health care workers with 644 needlestick exposures in San Francisco (17).

A recent report from the CDC documents 15 individuals with seroconversion associated with exposure to HIV-infected patients (17). The majority, but not all, of these exposures were related to needlestick injuries. There were a few cases of infection following exposure to blood without documented parenteral inoculation. The risk of transmission under these conditions is unknown, but it is likely to be substantially less than that noted for needlestick injuries. Transmission has not been reported to occur as a result of routine contact with HIV-infected patients or clinical laboratory specimens.

Laboratory workers in research laboratories who are exposed to high concentrations of virus may be at increased risk for acquisition of HIV. In one case the nosocomial nature of acquisition was evidenced by Southern blot analysis in which the patient's virus was shown to be identical to the laboratory isolate (25).

Despite these relatively reassuring statistics, the fact remains that HIV infection is believed to be virtually 100% fatal. The impact of this singular piece of data cannot be minimized and every effort must be made to reinforce the need for exercising extreme care when health care workers are at potential risk for exposure. On the other hand, these data need to be placed in perspective with other nosocomial risks. The currently reported highest risk of HIV infection associated with needlestick exposure is 0.6% (17). Current estimates are that 50% of HIV-infected patients will develop AIDS within 8 years of infection and nearly half of those individuals will die within the following year (26,27). This needs to be compared with the risks associated with another bloodborne pathogen, hepatitis B virus. The risk of developing lethal fulminating liver failure or chronic active hepatitis and dying within 8 years as a result of a needlestick exposure to hepatitis B virus is 0.6% (private communication, Dr. Hyman Zimmerman). This should not be interpreted as an excuse for complacency in addressing the risk of nosocomial acquisition of HIV, or HBV. There is a real need for constant reinforcement in utilizing proper technique when obtaining blood and performing invasive procedures on all patients. This is most evident when one recognizes that the single most common circumstance associated with needlestick exposure is recapping a used needle, a procedure that is proscribed (22).

Virology

The HIV virus is a retrovirus (23,28,29). It consists of a single-stranded RNA genome wrapped in a core of viral protein. The viral genome is actually diploid and the virion contains two identical chains of RNA. This core structure is surrounded by an envelope which is derived from the membrane of the host cell and contains viral glycoproteins. Like all retroviruses it contains reverse transcriptase. In addition a number of genetic elements have been identified which appear to play a major role in regulating viral replication and post transcriptional events.

Since the identification of HIV as the etiologic agent of AIDS a second related retrovirus, HIV-2, has also been identified in some patients with AIDS (30). This virus has similar biologic properties to HIV-1, but differs in nucleic acid composition and antigenic properties. The predominant geographic distribution of this is West Africa and a recent study of randomly selected U.S. blood donors did not reveal any evidence of infection with HIV-2 (8,31). Nevertheless, spread of this virus in the future is likely and vigilance will need to be maintained.

The virus is tropic to cells that contain the CD4 antigen on the cell surface (32,33). An envelope glycoprotein of the HIV virus, gp120, binds to the CD4 antigen and by an as yet undefined mechanism, the virus enters the cell (28,34). Once inside the cell the virus is uncoated and the genomic RNA is converted to proviral DNA by reverse transcriptase. The DNA is then integrated into the host cell genome where it acts as a template for viral replication. Following integration the proviral DNA is dependent upon host cell mechanisms for transcription, replication and translation. The consequence of this process is that the genetic material of the HIV virus is irreversibly incorporated into the genetic material of the host.

Proviral DNA may reside within the host cell in a state of latency, integrated into the host genome, but with no evidence of viral replication. With activation of the infected cell, transcription, viral protein synthesis and viral replication occur. Activation of the cell can occur through a variety of stimuli which may include other infectious agents such as cytomegalovirus or Epstein-Barr virus, exposure to antigens or other immune activators (28,29,35). The process of replication proceeds as viral proteins and viral genomic RNA are assembled at the cell surface and virions are released by budding. Envelope (gp120 and gp160) and core (p17 and p24) proteins may be expressed on the cell surface.

The hallmark of infection with HIV is a progressive depletion of the CD4 lymphocyte cell line (3,36-38). Infection of the CD4 lymphocyte with HIV leads to cell death. Although the mechanism of cell death has not been fully elucidated it appears that an indirect mechanism must be operative since the actual number of infected cells is quite small (38a). One possibility is that cell death is mediated through syncytia formation with cell-to-cell transfer of information (39). Another possibility is that circulating viral antigen (gp120) is bound to CD4 lymphocytes which are then cleared by immune mechanisms such as antibody dependent cellular cytotoxicity or T-cell mediated cytolysis (29,40). HIV-induced production of an antibody directed against a component of the CD4 cell membrane has also been suggested (23).

The presence of the CD4 antigen on the surface of the cell is not limited to a select population of lymphocytes. Certain monocytes and macrophages as well as Langerhans cells in the dermis and glial cells also contain CD4 antigens and may be infected with HIV (23,33). These cells are less susceptible to HIV-induced cell death and may constitute an important reservoir for the virus in the host.

The characteristic immunologic defect of HIV infection is a loss of CD4 lymphocyte-mediated immune function (3,29,36–38,40). The CD4 lymphocyte is the central figure in orchestrating the host's immune response. Depletion of the CD4 lymphocyte cell line results in a wide variety of immunologic defects. The development of immune deficiency in HIV-infected patients is progressive and in patients with early disease there may be almost no discernable immunologic defect. In patients with more advanced disease there is considerable evidence of immune impairment including skin test anergy, reduced proliferative responses to T-cell mitogens and antigens, reduced mixed lymphocyte response activity, depressed natural killer cell activity and an impaired antibody response to new antigens.

Natural History

The identification of HIV as the causative agent of AIDS has provided a framework for uncovering the natural history of HIV infection and the development of at least two classification schemes have been based on the various manifestations of HIV disease that were subsequently recognized.

The Centers for Disease Control adopted a classification scheme based on distinguishing the clinical features of different stages of HIV infection (41). The initial exposure and subsequent infection (CDC class I) with the virus may be totally asymptomatic. In some individuals a flu-like syndrome occurs and aseptic meningitis has also been noted (42). These symptoms resolve and the individual becomes asymptomatic in which the only manifestation of the HIV infection is a positive serologic test (CDC class II). Following seroconversion there is a prolonged period during which the virus may exist in a state of latency (41). Ultimately however, there is progressive deterioration of the immune system; during this period the individual may develop progressive generalized lymphadenopathy (CDC class III). As the immune system deteriorates systemic manifestations of HIV infection develop including opportunistic infections and neoplasms (CDC class IV). Other manifestations of CDC class IV disease include oral thrush, multidermatomal Herpes Zoster, oral leukoplakia or constitutional symptoms such as unexplained fever, weight loss, diarrhea or fatigue. Neurologic problems such as peripheral neuropathy or decreased cognitive function may also develop. The latter may progress to dementia. CDC class IV disease is divided into a number of subgroups based on the different clinical features of the illness.

The Walter Reed staging system utilizes both the clinical features of the illness and an immunologic assessment which is useful in predicting disease progression and stratifying patients for subsequent analyses (43). Patients with chronic lymphadenopathy are subdivided into several groups based on the total number of CD4 lymphocytes and the presence or absence of delayed skin test hypersensitivity.

The incubation period between exposure to the virus and the development of AIDS (opportunistic infection or tumor) may be quite long. A mathematical model has suggested that the mean incubation period for children less than 5 years old

21

is 2 years. For individuals between the ages of 5 and 59 the mean incubation period is 8.23 years (26). Virtually 100% of HIV-infected patients will progress to the development of AIDS.

The prolonged incubation period may provide some degree of comfort to individuals with HIV infection, but most such persons cannot date their time of exposure. Furthermore, individual predictions cannot be based on mean data. If we regard HIV infection as a slide down an immunologic hill we need to be able to estimate where the patient sits on that slope.

There are a number of factors that have been identified as predictors of disease progression. HIV seropositive individuals at high risk for the development of AIDS include those with constitutional symptoms (fever, diarrhea, weight loss or excessive fatigue), a low CD4 lymphocyte count, a low level of circulating anti-P24 antibody, detectable circulating P24 antigen, or the presence of detectable viremia (44–46). A high CD8 lymphocyte cell count and an elevated antibody titer to CMV have also been recognized as independent variables predicting disease progression (44).

The probability of surviving one year after a diagnosis of AIDS was estimated to be 48.8% among 5833 patients followed in New York City (27). This is quite variable among individuals with different manifestations of disease. Patients in whom the sole manifestation of AIDS is Kaposi's sarcoma have a longer mean survival than do those who have opportunistic infections. The one year survival for men aged 30–34 with Kaposi's sarcoma was 80.5% whereas patients with *Pneumocystis carinii* pneumonia had a one year survival of 45.4%. Women tend to have a shorter survival period than men. Other risk factors that indicate increased mortality include non-white race, older age, intravenous drug abuse and multiple manifestations of disease.

Diagnosis

The usual method for establishing a diagnosis of HIV infection is dependent on demonstration of serum antibody to viral proteins (47). The most frequently utilized test is an ELISA which detects the presence of circulating antibody to envelope proteins. The major issues with any testing program are the specificity and sensitivity. The sensitivity of the currently available ELISA tests are believed to be at least 99% when done properly with serum obtained from patients infected for more than 12 weeks (22). Although these tests are quite sensitive, false negative results will occur as a result of improper techniques, changes in viral characteristics (patients infected with HIV-2 will not react as well, if at all, in ELISAs based on HIV-1) or testing before the immune response has generated sufficient concentrations of circulating antibody. Some individuals may not seroconvert for many months after exposure. Recently, the importance of latency as a cause for false negative tests was also recognized (21). Several seropositive individuals who became seronegative had only developed latency.

The specificity of the ELISA tests is estimated to be greater than 99% when repeatedly positive tests are considered. This indicates that, if done properly, false positive results are uncommon.

Despite the apparent reliability of the screening tests, when studying large populations the predictive value of these tests is limited (22). Assuming a prevalence rate of 2.0%, ELISA sensitivity of 99% and specificity of 99.5%, the predictive value of a positive result is only 80.16%.

The standard approach has been to couple a positive ELISA screening with the more specific Western Blot assay (47). This test has extremely high specificity, but is subject to interpretation errors. The best results appear to be obtained when multiple protein bands are required for positivity. A single p24 band should not be regarded as diagnostic.

Other approaches to establishing the presence of HIV infection involve demonstrating directly the presence of the virus. This may include identifying circulating viral antigens such as the p24 antigen or direct viral isolation by magnification techniques such as the polymerase chain reaction (48).

The quality of the tests currently available for diagnosing HIV infection is quite good; new advances in technology continue to improve the accuracy of these diagnostic techniques. Employing monoclonal antibodies in newer ELISAs and carefully done Western blot assays will improve both sensitivity and specificity. Nevertheless, it must be recognized that testing is imperfect and both false positives and false negatives will occur.

Treatment

There are a number of treatment issues that need to be considered in a discussion of HIV infection. This includes the treatment of the viral infection itself, both who to treat and when to treat. Treatment of the immunologic defect is another equally important issue. Other considerations include advances in the treatment of opportunistic infections, neoplasms and other AIDS-related disorders; e.g., thrombocytopenia, myocarditis, renal failure.

The treatment of established HIV infection has been an area of intense research interest since the recognition of the epidemic. Initially, the observed defect in the immune system led to therapeutic trials with agents such as thymosin, alpha interferon, and interleukin-2 that were designed to reconstitute the immune system (49,50). This approach which failed to deal with the replicating virus was not successful. Furthermore, such an approach has a theoretical risk since stimulation of the immune system is known to promote viral replication (35,40).

Currently, the major therapeutic focus is on the development of safe, effective antiretroviral agents. It needs to be recognized that classical cure of HIV infection, i.e., eradication of the virus from the host, is not a realistic possibility once the virus has integrated itself into the host genome. The goal of antiretroviral therapy is to prevent replication of the virus and establish a state of functional or true latency in order to prevent further deterioration of the immune system. Once such latency is achieved it may be possible to restore or improve immune function either as a result of normal host restorative processes or by pharmacologic intervention.

There are a number of potential sites of activity for antiretroviral agents (29).

Anti-gp120 antibody could prevent the initial step in virus proliferation by blocking binding of the virus to the surface of the cell. In a similar manner soluble CD4 molecules could bind to virus and competitively inhibit binding of the virus to the CD4 lymphocyte (51). The utility of this approach is unknown although one might speculate that administration of this antibody would protect individuals at the time of acute exposure to the virus; i.e., needlestick injuries.

Inhibition of reverse transcriptase activity is the major site of antiretroviral drug development. Zidovudine, the only drug approved for the treatment of HIV infection, acts to inhibit reverse transcriptase and when incorporated into DNA acts as a terminator of chain synthesis (52,53,54). Other dideoxynucleoside analogs such as dideoxyinosine and dideoxycytidine inhibit HIV replication in vitro (49). Dideoxycytidine has undergone clinical trials and as a single agent appears to be excessively toxic (55). However, the drug may be efficacious and not too toxic if it is given in an alternating regimen with zidovudine (55). Additional clinical trials are in progress to address these issues. Phosphonoformate is another reverse transcriptase inhibitor that is being studied in preliminary clinical trials.

Other potential sites of antiretroviral activity include inhibition of integrase activity which would block incorporation of proviral DNA into the host genome, prevention of viral protein synthesis, and blocking release of virions at the cell surface level (56). Ampligen is a mismatched doublestranded RNA that induces 2,5-oligoadenylate synthetase activity and thus inhibits replication of the virus once it has entered the host cell (57). There are a number of regulatory proteins that are synthesized in response to HIV. Agents that inhibit such proteins, such as an anti-tat drug, would be a potential therapeutic avenue to explore.

The use of zidovudine in HIV-infected patients has resulted in prolonged survival (53). Zidovudine is currently approved for patients with AIDS or symptomatic HIV infection with CD4 lymphocyte counts less than 200. There are currently therapeutic trials underway evaluating zidovudine in infected individuals with higher CD4 counts. Unfortunately, the hematologic toxicity of zidovudine frequently necessitates a dosage reduction which may be associated with reduced antiviral efficacy (54).

Combination studies are being initiated at various centers in the United States and abroad. Acyclovir is synergistic in vitro with zidovudine and therapeutic trials are examining the efficacy of this combination (56). Both alpha and beta interferon are also synergistic with zidovudine and these combinations are under study. Another combination approach employs drugs designed to limit toxicity of zidovudine. Therapy with zidovudine and erythropoietin is designed to reduce the incidence of drug-induced anemia. Granulocyte macrophage colony stimulating factor has been given to improve AIDS-related neutropenia and a study of GM-CSF with zidovudine is in progress (58).

The longterm effects of these various agents are unknown, but a review of the current zidovudine data suggests that this drug continues to prolong life more than one year after initial administration. Continued advances in therapy will, hopefully, further improve survival with HIV infection.

Vaccine Development

The development of an effective vaccine to prevent transmission of the HIV virus is an area of paramount importance. With the recognition that the causative agent of the AIDS epidemic was a virus there was considerable optimism that the sophistication of our scientific tools and the recent advances in molecular virology would allow us to rapidly develop an effective vaccine. We foresaw difficulties, but these were in the area of implementation, such as "in what population could such a vaccine be tested to demonstrate clinical efficacy?" Unfortunately, our optimism has rapidly faded as we have learned more about the peculiarities of this virus; we are a long way from needing to worry about appropriate populations for a clinical efficacy trial.

In order to develop a vaccine that is protective we need to understand the nature of the immune response that is generated on exposure to HIV. We need to determine how we can manipulate this immune response. We need to determine what immune response, if any, will protect a person who is exposed to the virus so that the proviral nucleic acid will not be incorporated into the host cell genome.

This is an extremely complex problem. Infection with HIV may result in the development of neutralizing antibodies which inactivate the virus in vitro (23,59,60). Individuals who develop such neutralizing antibodies have a better prognosis than do those who lack neutralizing antibodies, but the presence of these antibodies in an infected individual does not halt progression of disease (23). Whether the presence of such antibodies could prevent primary infection in humans is unknown. Other HIV-specific immune responses have also been described (23, 61-64). HIV-specific cytotoxic T-lymphocytes as well as antibody dependent cellular cytotoxicity directed against components of the gp120 protein have been identified in infected individuals. It is possible that such cytotoxic responses may be more important than the production of neutralizing antibodies in the development of a vaccine. One postulated mechanism of disease transmission involves direct transfer of infected cells. Neutralizing antibodies would not be effective in preventing acquisition of infection under those conditions. The appropriate manipulation of these immune responses may be important in both preventing acquisition of HIV following exposure as well as preventing disease progression.

The genomic diversity of HIV isolates is a major obstacle in the development of a vaccine (65,66). Neutralizing antibody effective against one strain of the virus may be ineffective against other isolates. The need for understanding the molecular virology of HIV is evident. An effective vaccine should be directed against regions of the virus which are conserved and do not readily mutate (67).

There are several candidate vaccines that are in various stages of study. Most of these vaccines are directed against portions of the surface gp120 (or parent gp160) molecule. The rationale is that such a vaccine could prevent binding of the virus to the cell and thus block infection. In one study the complete envelope glycoprotein (gp160) was coupled to a vaccinia virus vector and injected into normal volunteers (68). A weak immune response was generated; both neutralizing antibodies and T-cell proliferative responses to HIV antigens were elicited. Additional immunizations resulted in strong anamnestic humoral and cellular responses (69). The antibody produced could neutralize both the parent HIV strain from which the envelope glycoprotein was obtained as well as other strains. This is a critical issue in as much as many of the mutations of different HIV isolates are expressed by antigenic variations in the envelope glycoprotein.

Other potential vaccines based on the envelope glycoprotein employ recombinant subunits or couple the HIV envelope product to immunostimulants (70-72). Another candidate vaccine is based on the relatively constant P17 core protein which may also be present on the surface of the virus as well as being buried in the viral core (73). This latter agent is in clinical trials in California, Britain and Japan.

Vaccine studies have been hampered by the lack of satisfactory animal models. Chimpanzees can be infected with HIV (70), but they are an endangered species and thus are difficult to obtain as well as being extremely expensive. Furthermore, results with chimpanzees have not been encouraging (71). Although the animals may develop neutralizing antibodies that are effective in vitro they are not protected from development of infection following viral challenge. This may be due to direct cell transfer of virus such that neutralizing antibody will not be an effective means of preventing infection.

Conclusion

The HIV epidemic represents a unique challenge to modern medicine. Great strides have been made in both the clinical and basic science arenas. Our knowledge of immunology, molecular biology, virology, and clinical medicine has advanced in concert with our understanding of the biology of HIV. Despite these advances the fact remains that we are deeply involved in a race between the ability of the HIV virus to spread and cause disease, and our ability to prevent dissemination and disease progression. We have made considerable progress, but we are still a long way from effective therapies and disease prevention strategies.

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First 100,000 Cases of Acquired Immunodeficiency Syndrome – United States

In June 1981, the first cases of the illness now known as acquired immunodeficiency syndrome (AIDS) were reported from Los Angeles in five young homosexual men diagnosed with *Pneumocystis carinii* pneumonia and other opportunistic infections (*1*). Since then, state and territorial health departments have reported >100,000 cases of AIDS and >59,000 AIDS-related deaths to CDC. AIDS is now a major cause of morbidity and mortality in children and young adults in the United States, ranking 15th among leading causes of death in 1988 (*2*) and seventh among estimated years of potential life lost before age 65 in 1987 (*3*). The first 50,000 cases of AIDS were reported to CDC from 1981 to 1987; the second 50,000 were reported between December 1987 and July 1989.

Although homosexual/bisexual men still account for most reported AIDS cases, intravenous-drug users (IVDUs), their sex partners, and their children represent an increasing proportion of all cases. Of AIDS cases reported before 1985, 63% were homosexual/bisexual men with no history of IV-drug use, 18% were female or heterosexual male IVDUs, and 2% were sex partners or children of IVDUs or their sex partners. In contrast, of the AIDS cases reported in the first 6 months of 1989, 56% were homosexual/bisexual men with no history of IV-drug use, 23% were female or heterosexual male IVDUs, and 4% were sex partners or children of IVDUs or their sex partners. The proportion of AIDS cases among women has also increased from 7% of cases reported before 1985 to 11% of cases reported in the first 6 months of 1989. Blacks and Hispanics continue to be disproportionately represented among all persons with AIDS and particularly among IVDUs with AIDS (Table 1). Although most AIDS cases are reported from large metropolitan areas, an increasing proportion are being reported from smaller cities and rural areas. Metropolitan statistical areas with populations ≤500,000 reported 10% of all U.S. cases before 1985, compared with 19% in 1988.

TABLE 1. Percentage distribution by racial/ethnic groups comparing population, AIDS cases, and AIDS cases associated with intravenous-drug users (IVDU) – United States,[*] 1981–1989

		AIDS cases			
Race/Ethnicity	**1980 U.S. population[†]**	**Cumulative[*] (n = 97,110)**	**IVDU[§] (n = 18,540)**	**Heterosexual IVDU contact (n = 2,067)**	**Children and sex partners of IVDU (n = 906)**
White	79.6%	58.5%	21.8%	24.2%	14.7%
Black	11.5%	27.7%	54.0%	54.0%	60.0%
Hispanic	6.4%	13.1%	24.1%	21.2%	25.0%
Asian/Pacific Islander	1.8%	0.6%	0.1%	0.4%	0.1%
American Indian/ Alaskan Native	0.7%	0.1%	0.1%	0.1%	0.2%

[*] Excluding U.S. territories.
[†] 1980 U.S. Census.
[§] Female or heterosexual male IVDU.

Reported by: AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: The 100,000 AIDS cases reported in the United States as of July 1989 represent the minimum number of persons with severe human immunodeficiency virus (HIV)-related disease. Because of the combination of underdiagnosis and underreporting of AIDS cases and severe manifestations of HIV infection that do not meet the CDC AIDS surveillance case definition, reported AIDS cases underestimate the number of persons severely affected by HIV since 1981. The completeness of diagnosis and reporting of AIDS cases varies by geographic region and patient population; however, mortality studies suggest that 70%–90% of HIV-related deaths are identified through national surveillance of AIDS (*4*).

The number of AIDS cases are one indication of the larger epidemic of HIV infection. An estimated 1–1.5 million persons are infected with HIV in the United States (*5*), with recent seroprevalence studies suggesting that the actual number is closer to the lower end of this range (*6*). A cohort study of homosexual/bisexual men in San Francisco suggests that 54% of infected persons will develop AIDS within 10 years of infection (*7*) and that up to 99% will eventually develop AIDS (*8*). Therefore, the number of persons with AIDS and other severe manifestations of HIV infection will continue to increase.

AIDS is reportable in all 50 states, the District of Columbia, and U.S. territories. AIDS surveillance has been crucial in identifying characteristics of persons at risk for the disease and modes of transmission and remains extremely important in monitoring trends in severe HIV-related disease, projecting future numbers of AIDS cases and HIV-infected persons, and targeting resources for prevention and treatment efforts. Because persons with AIDS require a broad range of medical services, documentation of these cases is also important in determining current and future health-care needs and costs. AIDS surveillance data together with information from the HIV family of surveys (*6*) and HIV infection reporting (*9*) are important components of public health programs directed toward controlling HIV infection and assist in providing the most accurate picture of the HIV epidemic in the United States.

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January 25, 1991 / Vol. 40 / No. 3

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

41 Mortality Attributable to HIV Infection/AIDS – United States, 1981–1990
45 Update: Influenza Activity – United States, 1990–91
46 Laboratory-Acquired Meningococcemia – California and Massachusetts

Current Trends

Mortality Attributable to HIV Infection/AIDS – United States, 1981–1990

From 1981 through 1990, 100,777 deaths among persons with acquired immunodeficiency syndrome (AIDS) were reported to CDC by local, state, and territorial health departments; almost one third (31,196) of these deaths were reported during 1990.[*] During the 1980s, AIDS emerged as a leading cause of death among young adults in the United States. By 1988,[†] human immunodeficiency virus (HIV) infection/AIDS had become the third leading cause of death among men 25–44 years of age and, by 1989, was estimated to be second, surpassing heart disease, cancer, suicide, and homicide (Figure 1). In 1988, HIV infection/AIDS ranked eighth among causes of death among women 25–44 years of age (Figure 2); in 1991, based on current trends, HIV infection/AIDS is likely to rank among the five leading causes of death in this population (*1*).

Most deaths from AIDS have occurred among homosexual/bisexual men (men who have had sex with other men) (59%) and among women and heterosexual men who are intravenous-drug users (21%) (Table 1). Nearly three fourths of deaths occurred among persons 25–44 years of age. Although most deaths occurred among whites, death rates have been highest for blacks and Hispanics. During 1990, the number of reported deaths (national AIDS surveillance) per 100,000 population was 29.3 for blacks (non-Hispanic), 22.2 for Hispanics, 8.7 for whites (non-Hispanic), 2.8 for Asian/Pacific Islanders, and 2.8 for American Indians/Alaskan Natives.

As a percentage of all deaths, HIV infection/AIDS mortality has been greatest among persons 25–44 years of age. In 1989, among persons in this age group, HIV infection/AIDS accounted for 14% and 4% of all deaths among men and women, respectively; these proportions were more similar for white men and black men (14% and 16%, respectively) than for white women and black women (2% and 9%, respectively) (*2*).

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[*] Single copies of this article will be available free until January 25, 1992, from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850; telephone (800) 458-5231.

[†] The most recent year for which national vital statistics data are available to compare rankings of HIV infection/AIDS with other causes of death by age and sex. Vital statistics data in this report represent deaths for which HIV infection or AIDS was designated as the underlying cause of death.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

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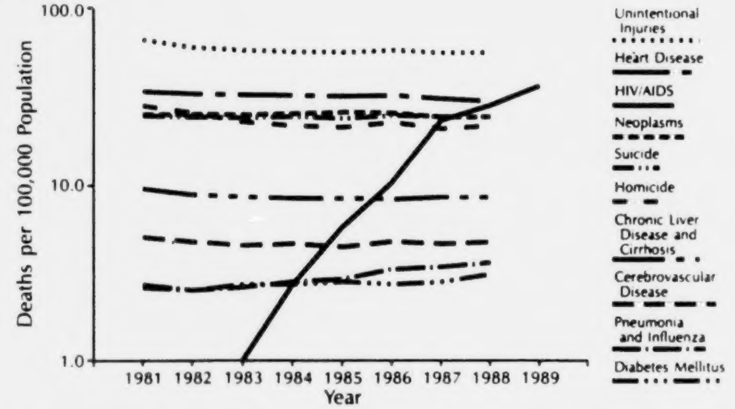
HIV Infection AIDS – Continued

Reported by: Local, state, and territorial health departments. Div of HIV/AIDS, Center for Infectious Diseases; Div of Vital Statistics, National Center for Health Statistics, CDC.

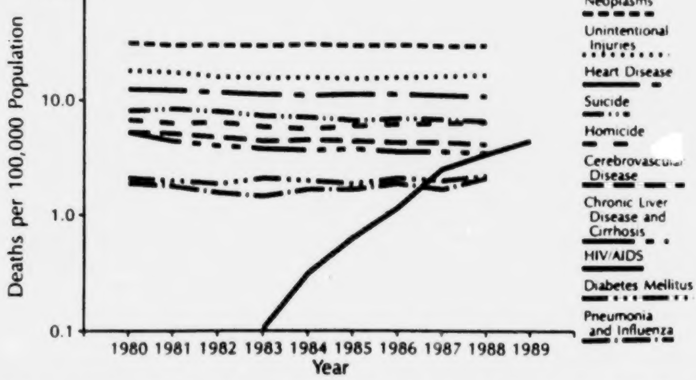
Editorial Note: From 1981, when AIDS was first recognized, through 1990, more than 100,000 persons in the United States have died from AIDS. The impact of AIDS has been greatest among men 25–44 years of age, contributing substantially to the overall increase in deaths among this group during the 1980s (*3*); in addition, AIDS is becoming a leading cause of death among women.

FIGURE 1. Leading causes of death among men 25–44 years of age – United States, 1981–1989*



*National vital statistics. Final data for 1981–1988; provisional data for HIV infection/AIDS for 1989.

FIGURE 2. Leading causes of death among women 25–44 years of age – United States, 1980–1989*



*National vital statistics. Final data for 1980–1988; provisional data for HIV infection/AIDS for 1989.

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The impact of AIDS on mortality patterns has been greater in certain areas of the United States than in others. For example, in San Francisco, Los Angeles, and New York City, HIV infection/AIDS is the leading cause of death among young adult men. In both New York State and New Jersey, HIV infection/AIDS is the leading cause of death among black women 15–44 years of age; in New Jersey, the number of deaths among this population from HIV infection/AIDS in 1988 was nearly equal to the

TABLE 1. Characteristics of persons who have died from AIDS – United States, 1981–1990

Characteristic	No.	(%)
Total	**100,777**	**(100.0)**
HIV exposure group		
Homosexual/Bisexual men	59,586	(59.1)
Intravenous-drug users		
Women and heterosexual men	21,126	(21.0)
Homosexual/Bisexual men	6,894	(6.8)
Persons with hemophilia		
Adult/Adolescent	945	(0.9)
Child	74	(0.1)
Transfusion recipient		
Adult/Adolescent	2,793	(2.8)
Child	150	(0.1)
Heterosexual contact	3,587	(3.6)
Persons born in countries where HIV infection occurs primarily through heterosexual contact	1,160	(1.2)
Perinatal	1,186	(1.2)
No identified risk	3,276	(3.3)
Race/Ethnicity		
White, non-Hispanic	55,494	(55.1)
Black, non-Hispanic	28,575	(28.4)
Hispanic	15,805	(15.7)
Asian/Pacific Islander	608	(0.6)
American Indian/Alaskan Native	138	(0.1)
Unspecified	157	(0.2)
Age at death (yrs)		
<5	1,141	(1.1)
5–14	308	(0.3)
15–24	3,266	(3.2)
25–34	36,418	(36.1)
35–44	37,634	(37.3)
45–54	14,256	(14.1)
≥55	7,405	(7.3)
Unspecified	349	(0.3)
Sex		
Male	90,715	(90.0)
Female	10,056	(10.0)
Unspecified	6	(<0.1)

Source: National AIDS surveillance.

number of deaths from the second and third leading causes combined (cancer and unintentional injuries) (*1*; CDC, unpublished data). In some locations, HIV infection/AIDS has become a major cause of death among young children; in New York State in 1988, HIV infection/AIDS was the leading cause of death among Hispanic children 1–4 years of age, and the second leading cause of death among black children 1–4 years of age, exceeding deaths from unintentional injuries among Hispanic children and from all other infectious diseases among both groups (*4*).

Surveillance for AIDS cannot identify deaths among persons in whom HIV infection or HIV-related illness has not been diagnosed; however, AIDS surveillance does identify most deaths among persons diagnosed as having HIV infection. From July 1986 through June 1987, 3001 death certificates listing diagnoses that indicate HIV infection/AIDS were filed in New York City; of the deaths registered by these certificates, 85% were among persons who met the CDC AIDS surveillance case definition, 6% among persons who would have met the definition if HIV serology results had been available, and 9% among HIV-infected persons with illnesses or conditions not included in the AIDS surveillance definition (*5*). When the effects of underdiagnosis and underreporting are considered, AIDS surveillance identifies 70%–90% of HIV-infection–related deaths and, therefore, provides a minimum estimate of HIV-infection–related mortality (*3*; CDC, unpublished data).

In addition to mortality statistics, measures of the public health impact of HIV infection/AIDS include morbidity, disability, and health-care costs. For example, the HIV infection/AIDS epidemic is straining the resources of public hospitals (*6*); in 1989, private insurers paid more than an estimated one billion dollars for reimbursement of AIDS-related claims for life and health insurance, an increase of 71% from 1988 (*7*).

An estimated one million persons in the United States are infected with HIV (*8*); of these, an estimated 165,000–215,000 will die during 1991–1993 (*8*). The impact of HIV infection/AIDS on mortality in the mid-1990s to late 1990s and early 2000s will depend on present efforts to prevent and treat HIV infection.

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THE MEDICAL BACKGROUND

Additional Resources

National AIDS Information Clearinghouse. (800/458-5231).

The National AIDS Information Clearinghouse is a comprehensive information service for persons working with HIV and AIDS. As a service of the U.S. Department of Health and Human Services, Public Health Service, CDC, the Clearinghouse collects, classifies, and distributes up-to-date information, and provides expert reference assistance to HIV- and AIDS-prevention professionals. The Clearinghouse is a direct source of materials to help professionals keep up to date on scientific data and guidelines issued by CDC. The Clearinghouse distributes selected HIV/AIDS reprints from the MMWR and all issues of CDC's HIV/AIDS Surveillance. All Clearinghouse services are free.

AIDS Bibliography, National Library of Medicine, Reference Section, 8600 Rockville Pike, Bethesda, Maryland 20894.

This is a monthly publication of the U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. It contains approximately 500 of the most significant articles on the scientific, social, and ethical aspects of AIDS.

AIDS Bibliography, Oryx Press.

This series is designed to collect and evaluate the most significant material covering all aspects of the AIDS crisis. Issued semi-annually, each bibliography contains references to approximately 500 of the most significant articles on the scientific, social and ethical aspects of AIDS.

And the Band Played On, by Randy Shilts, published by Penguin Books (1988).

This is a work of investigative journalism by a reporter for the San Francisco Chronicle. The book is subtitled, "Politics, People and the AIDS Epidemic." It is informative and fascinating.

Learning AIDS: An Information Resources Directory, The American Foundation for AIDS Research.

> This Directory contains a guide to selected AIDS educational materials. Separate sections of the Directory list materials targeted to College and University Students and to Health Care Professionals, respectively. Information regarding how to order these materials is provided in the Directory.

Worker Exposure to AIDS & Hepatitis B, OSHA 3102, U.S. Department of Labor, Occupational Safety and health Administration (1990)/

> A single free copy of this publication may be obtained from the OSHA Publications Office, 200 Constitution Avenue, NW, Room N3101, Washington, DC 20210 (202/523-9667). Please send a self-addressed label with your request.

THE LEGAL BACKGROUND

SELECT PROVISIONS OF THE REHABILITATION ACT OF 1973

§ 706. Definitions

For the purposes of this Act:

(8)(A) Except as otherwise provided in subparagraph (B), the term "individual with handicaps" means any individual who (i) has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment and (ii) can reasonably be expected to benefit in terms of employability from vocational rehabilitation services provided pursuant to titles I and III of this Act [29 USCS §§ 720 et seq., 770 et seq.].

(B) Subject to the second sentence of this subparagraph, the term "individual with handicaps" means, for purposes of titles IV and V of this Act [29 USCS §§ 780 et seq., 790 et seq.], any person who (i) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment. For purposes of sections 503 and 504 [29 USCS §§ 793, 794] as such sections relate to employment, such term does not include any individual who is an alcoholic or drug abuser whose current use of alcohol or drugs prevents such individual from performing the duties of the job in question or whose employment, by reason of such current alcohol or drug abuse, would constitute a direct threat to property or the safety of others.

(C) For the purpose of sections 503 and 504 [29 USCS §§ 793, 794], as such sections relate to employment, such term does not include an individual who has a currently contagious disease or infection and who, by reason of such disease or infection, would constitute a direct threat to the health or safety of other individuals or who, by reason of the currently contagious disease or infection, is unable to perform the duties of the job.

§ 794a. Remedies and attorneys' fees

(a)(2) The remedies, procedures, and rights set forth in title VI of the Civil Rights Act of 1964 [42 USCS §§ 2000d et seq.] shall be available to any person aggrieved by any act or failure to act by any recipient of Federal assistance or Federal provider of such assistance under section 504 of this Act [29 USCS § 794].

(b) In any action or proceeding to enforce or charge a violation of a provision of this title [29 USCS §§ 790 et seq.], the court, in its discretion, may allow the prevailing party, other than the United States, a reasonable attorney's fee as part of the costs.

(Sept. 26, 1973, P.L. 93-112, Title V, § 505, as added Nov. 6, 1978, P.L. 95-602, Title I, § 120, 92 Stat. 2982.)

§ 794. Nondiscrimination under Federal grants and programs; promulgation of rules and regulations

(a) Promulgation of nondiscriminatory rules and regulations; copies to appropriate committees. No otherwise qualified individual with handicaps in the United States, as defined in section 7(8) [29 USCS § 706(8)], shall, solely by reason of her or his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service. The head of each such agency shall promulgate such regulations as may be necessary to carry out the amendments to this section made by the Rehabilitation, Comprehensive Services, and Developmental Disabilities Act of 1978. Copies of any proposed regulation shall be submitted to appropriate authorizing committees of the Congress, and such regulation may take effect no earlier than the thirtieth day after the date on which such regulation is so submitted to such committees.

(b) "Program or activity" defined. For the purposes of this section, the term "program or activity" means all of the operations of—

(1)(A) a department, agency, special purpose district, or other instrumentality of a State or of a local government; or

(B) the entity of such State or local government that distributes such assistance and each such department or agency (and each other State or local government entity) to which the assistance is extended, in the case of assistance to a State or local government;

(2)(A) a college, university, or other postsecondary institution, or a public system of higher education; or

(B) a local educational agency (as defined in section 1471(12) of the Elementary and Secondary Education Act of 1965 [20 USCS § 2891(12)]), system of vocational education, or other school system;

(3)(A) an entire corporation, partnership, or other private organization, or an entire sole proprietorship—

(i) if assistance is extended to such corporation, partnership, private organization, or sole proprietorship as a whole; or

(ii) which is principally engaged in the business of providing education, health care, housing, social services, or parks and recreation; or

(B) the entire plant or other comparable, geographically separate facility to which Federal financial assistance is extended, in the case of any other corporation, partnership, private organization, or sole proprietorship; or

(4) any other entity which is established by two or more of the entities described in paragraph (1), (2), or (3);

any part of which is extended Federal financial assistance.

(Sept. 26, 1973, P. L. 93-112, Title V, § 504, 87 Stat 394; Nov. 6, 1978, P. L. 95-602, Title I, §§ 119, 122(d)(2), 92 Stat. 2982, 2987; Oct. 21, 1986, P. L. 99-506, Title I, § 103(d)(2)(B) in part, Title X, § 1002(e)(4), 100 Stat. 1810, 1844; Mar. 22, 1988, P. L. 100-259, § 4, 102 Stat. 29; Nov. 7, 1988, P. L. 100-630, Title II, § 206(d), 102 Stat. 3312.)

PART 84—NONDISCRIMINATION ON THE BASIS OF HANDICAP IN PROGRAMS AND ACTIVITIES RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE

Subpart A—General Provisions

Sec.

84.1 Purpose.
84.2 Application.
84.3 Definitions.
84.4 Discrimination prohibited.
84.5 Assurances required.
84.6 Remedial action, voluntary action, and self-evaluation.
84.7 Designation of responsible employee and adoption of grievance procedures.
84.8 Notice.
84.9 Administrative requirements for small recipients.
84.10 Effect of state or local law or other requirements and effect of employment opportunities.

Subpart B—Employment Practices

84.11 Discrimination prohibited.
84.12 Reasonable accommodation.
84.13 Employment criteria.
84.14 Preemployment inquiries.
84.15—84.20 [Reserved]

Subpart C—Program Accessibility

84.21 Discrimination prohibited.
84.22 Existing facilities.

Sec.

84.23 New construction.
84.24—84.30 [Reserved]

Subpart D—Preschool, Elementary, and Secondary Education

84.31 Application of this subpart.
84.32 Location and notification.
84.33 Free appropriate public education.
84.34 Educational setting.
84.35 Evaluation and placement.
84.36 Procedural safeguards.
84.37 Nonacademic services.
84.38 Preschool and adult education programs.
84.39 Private education programs.
84.40 [Reserved]

Subpart E—Postsecondary Education

84.41 Application of this subpart
84.42 Admissions and recruitment.
84.43 Treatment of students; general.
84.44 Academic adjustments.
84.45 Housing.
84.46 Financial and employment assistance to students.
84.47 Nonacademic services.
84.48—84.50 [Reserved]

Subpart F—Health, Welfare, and Social Services

84.51 Application of this subpart.
84.52 Health, welfare, and other social services.
84.53 Drug and alcohol addicts.
84.54 Education of institutionalized persons.
84.55 Procedures relating to health care for handicapped infants.
84.56—84.60 [Reserved]

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Sec.

Subpart G—Procedures

84.61 Procedures.

APPENDIX A TO PART 84—ANALYSIS OF FINAL REGULATION

APPENDIX B TO PART 84—GUIDELINES FOR ELIMINATING DISCRIMINATION AND DENIAL OF SERVICES ON THE BASIS OF RACE, COLOR, NATIONAL ORIGIN, SEX, AND HANDICAP IN VOCATIONAL EDUCATION PROGRAMS [NOTE]

APPENDIX C TO PART 84—GUIDELINES RELATING TO HEALTH CARE FOR HANDICAPPED INFANTS

AUTHORITY: Sec. 504, Rehabilitation Act of 1973, Pub. L. 93-112, 87 Stat. 394 (29 U.S.C. 794); sec. 111(a), Rehabilitation Act Amendments of 1974, Pub. L. 93-516, 88 Stat. 1619 (29 U.S.C. 706); sec. 606, Education of the Handicapped Act (20 U.S.C. 1405), as amended by Pub. L. 94-142, 89 Stat. 795; sec. 321, Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970, 84 Stat. 182 (42 U.S.C. 4581), as amended; sec. 407, Drug Abuse Office and Treatment Act of 1972, 86 Stat. 78 (21 U.S.C. 1174), as amended.

SOURCE: 42 FR 22677, May 4, 1977, unless otherwise noted.

Subpart A—General Provisions

§ 84.1 Purpose.

The purpose of this part is to effectuate section 504 of the Rehabilitation Act of 1973, which is designed to eliminate discrimination on the basis of handicap in any program or activity receiving Federal financial assistance.

§ 84.2 Application.

This part applies to each recipient of Federal financial assistance from the Department of Health and Human Services and to each program or activity that receives or benefits from such assistance.

§ 84.3 Definitions.

As used in this part, the term:

(a) "The Act" means the Rehabilitation Act of 1973, Pub. L. 93-112, as amended by the Rehabilitation Act Amendments of 1974, Pub. L. 93-516, 29 U.S.C. 794.

(b) "Section 504" means section 504 of the Act.

(c) "Education of the Handicapped Act" means that statute as amended by the Education for all Handicapped Children Act of 1975, Pub. L. 94-142, 20 U.S.C. 1401 et seq.

(d) "Department" means the Department of Health and Human Services.

(e) "Director" means the Director of the Office for Civil Rights of the Department.

(f) "Recipient" means any state or its political subdivision, any instrumentality of a state or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance.

(g) "Applicant for assistance" means one who submits an application, request, or plan required to be approved by a Department official or by a recipient as a condition to becoming a recipient.

(h) "Federal financial assistance" means any grant, loan, contract (other than a procurement contract or a contract of insurance or guaranty), or any other arrangement by which the Department provides or otherwise makes available assistance in the form of:

(1) Funds;

(2) Services of Federal personnel; or

(3) Real and personal property or any interest in or use of such property, including:

(i) Transfers or leases of such property for less than fair market value or for reduced consideration; and

(ii) Proceeds from a subsequent transfer or lease of such property if the Federal share of its fair market value is not returned to the Federal Government.

(i) "Facility" means all or any portion of buildings, structures, equipment, roads, walks, parking lots, or other real or personal property or interest in such property.

(j) "Handicapped person." (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.

(2) As used in paragraph (j)(1) of this section, the phrase:

(i) "Physical or mental impairment" means (A) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive, digestive, genito-urinary; hemic and lymphatic; skin; and endocrine; or (B) any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.

(ii) "Major life activities" means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

(iii) "Has a record of such an impairment" means has a history of, or has been misclassified as having, a mental or physical impairment that substantially limits one or more major life activities.

(iv) "Is regarded as having an impairment" means (A) has a physical or mental impairment that does not substantially limit major life activities but that is treated by a recipient as constituting such a limitation; (B) has a physical or mental impairment that substantially limits major life activities only as a result of the attitudes of others toward such impairment; or (C) has none of the impairments defined in paragraph (j)(2)(i) of this section but is treated by a recipient as having such an impairment.

(k) "Qualified handicapped person" means:

(1) With respect to employment, a handicapped person who, with reasonable accommodation, can perform the essential functions of the job in question;

(2) With respect to public preschool elementary, secondary, or adult educational services, a handicappped person (i) of an age during which nonhandicapped persons are provided such services, (ii) of any age during which it is mandatory under state law to provide such services to handicapped persons, or (iii) to whom a state is required to provide a free appropriate public education under section 612 of the Education of the Handicapped Act; and

(3) With respect to postsecondary and vocational education services, a handicapped person who meets the academic and technical standards requisite to admission or participation in the recipient's education program or activity;

(4) With respect to other services, a handicapped person who meets the essential eligibility requirements for the receipt of such services.

(l) "Handicap" means any condition or characteristic that renders a person a handicapped person as defined in paragraph (j) of this section.

§ 84.4 Discrimination prohibited.

(a) *General.* No qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal financial assistance.

(b) *Discriminatory actions prohibited.* (1) A recipient, in providing any aid, benefit, or service, may not, directly or through contractual, licensing, or other arrangements, on the basis of handicap:

(i) Deny a qualified handicapped person the opportunity to participate in or benefit from the aid, benefit, or service;

(ii) Afford a qualified handicapped person an opportunity to participate in or benefit from the aid, benefit, or service that is not equal to that afforded others;

(iii) Provide a qualified handicapped person with an aid, benefit, or service that is not as effective as that provided to others;

(iv) Provide different or separate aid, benefits, or services to handicapped persons or to any class of handicapped persons unless such action is necessary to provide qualified handicapped persons with aid, benefits, or services that are as effective as those provided to others;

(v) Aid or perpetuate discrimination against a qualified handicapped person by providing significant assistance to an agency, organization, or person that discriminates on the basis of handicap in providing any aid, benefit, or service to beneficiaries of the recipients program;

(vi) Deny a qualified handicapped person the opportunity to participate as a member of planning or advisory boards; or

(vii) Otherwise limit a qualified handicapped person in the enjoyment of any right, privilege, advantage, or opportunity enjoyed by others receiving an aid, benefit, or service.

(2) For purposes of this part, aids, benefits, and services, to be equally effective, are not required to produce the identical result or level of achievement for handicapped and nonhandicapped persons, but must afford handicapped persons equal opportunity to obtain the same result, to gain the same benefit, or to reach the same level of achievement, in the most integrated setting appropriate to the person's needs.

(3) Despite the existence of separate or different programs or activities provided in accordance with this part, a recipient may not deny a qualified handicapped person the opportunity to participate in such programs or activities that are not separate or different.

(4) A recipient may not, directly or through contractual or other arrangements, utilize criteria or methods of administration (i) that have the effect of subjecting qualified handicapped persons to discrimination on the basis of handicap, (ii) that have the purpose or effect of defeating or substantially impairing accomplishment of the objectives of the recipient's program with respect to handicapped persons, or (iii) that perpetuate the discrimination of another recipient if both recipients are subject to common administrative control or are agencies of the same State.

(5) In determining the site or location of a facility, an applicant for assistance or a recipient may not make selections (i) that have the effect of excluding handicapped persons from, denying them the benefits of, or otherwise subjecting them to discrimination under any program or activity that receives or benefits from Federal financial assistance or (ii) that have the purpose or effect of defeating or substantially impairing the accomplishment of the objectives of the program or activity with respect to handicapped persons.

(6) As used in this section, the aid, benefit, or service provided under a program or activity receiving or benefiting from Federal financial assistance includes any aid, benefit, or service provided in or through a facility that has been constructed, expanded, altered, leased or rented, or otherwise acquired, in whole or in part, with Federal financial assistance.

(c) *Programs limited by Federal law.* The exclusion of nonhandicapped persons from the benefits of a program limited by Federal statute or executive order to handicapped persons or the exclusion of a specific class of handicapped persons from a program limited by Federal statute or executive order to a different class of handicapped persons is not prohibited by this part. . . . .

§ 84.6 Remedial action, voluntary action, and self-evaluation.

(a) *Remedial action.* (1) If the Director finds that a recipient has discriminated against persons on the basis of handicap in violation of section 504 or this part, the recipient shall take such remedial action as the Director deems necessary to overcome the effects of the discrimination.

(2) Where a recipient is found to have discriminated against persons on the basis of handicap in violation of section 504 or this part and where another recipient exercises control over the recipient that has discriminated, the Director, where appropriate, may require either or both recipients to take remedial action.

(3) The Director may, where necessary to overcome the effects of discrimination in violation of section 504 or this part, require a recipient to take remedial action (i) with respect to handicapped persons who are no longer participants in the recipient's program but who were participants in the program when such discrimination occurred or (ii) with respect to handi-

capped persons who would have been participants in the program had the discrimination not occurred.

(b) *Voluntary action.* A recipient may take steps, in addition to any action that is required by this part, to overcome the effects of conditions that resulted in limited participation in the recipient's program or activity by qualified handicapped persons.

(c) *Self-evaluation.* (1) A recipient shall, within one year of the effective date of this part:

(i) Evaluate, with the assistance of interested persons, including handicapped persons or organizations representing handicapped persons, its current policies and practices and the effects thereof that do not or may not meet the requirements of this part;

(ii) Modify, after consultation with interested persons, including handicapped persons or organizations representing handicapped persons, any policies and practices that do not meet the requirements of this part; and

(iii) Take, after consultation with interested persons, including handicapped persons or organizations representing handicapped persons, appropriate remedial steps to eliminate the effects of any discrimination that resulted from adherence to these policies and practices.

(2) A recipient that employs fifteeen or more persons shall, for at least three years following completion of the evaluation required under paragraph (c)(1) of this section, maintain on file, make available for public inspection, and provide to the Director upon request: (i) A list of the interested persons consulted (ii) a description of areas examined and any problems identified, and (iii) a description of any modifications made and of any remedial steps taken.

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§ 84.10 Effect of state or local law or other requirements and effect of employment opportunities.

(a) The obligation to comply with this part is not obviated or alleviated by the existence of any state or local law or other requirement that, on the basis of handicap, imposes prohibitions or limits upon the eligibility of qualified handicapped persons to receive services or to practice any occupation or profession.

(b) The obligation to comply with this part is not obviated or alleviated because employment opportunities in any occupation or profession are or may be more limited for handicapped persons than for nonhandicapped persons.

Subpart B—Employment Practices

§ 84.11 Discrimination prohibited.

(a) *General.* (1) No qualified handicapped person shall, on the basis of handicap, be subjected to discrimination in employment under any program or activity to which this part applies.

(2) A recipient that receives assistance under the Education of the Handicapped Act shall take positive steps to employ and advance in employment qualified handicapped persons in programs assisted under that Act.

(3) A recipient shall make all decisions concerning employment under any program or activity to which this part applies in a manner which ensures that discrimination on the basis of handicap does not occur and may not limit, segregate, or classify applicants or employees in any way that adversely affects their opportunities or status because of handicap.

(4) A recipient may not participate in a contractual or other relationship that has the effect of subjecting qualified handicapped applicants or employees to discrimination prohibited by this subpart. The relationships referred to in this paragraph include relationships with employment and referral agencies, with labor unions, with organizations providing or administering fringe benefits to employees of the recipient, and with organizations providing training and apprenticeship programs.

(b) *Specific activities.* The provisions of this subpart apply to:

(1) Recruitment, advertising, and the processing of applications for employment;

(2) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;

(3) Rates of pay or any other form of compensation and changes in compensation;

(4) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(5) Leaves of absense, sick leave, or any other leave;

(6) Fringe benefits available by virtue of employment, whether or not administered by the recipient;

(7) Selection and financial support for training, including apprenticeship, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(8) Employer sponsored activities, including social or recreational programs; and

(9) Any other term, condition, or privilege of employment.

(c) A recipient's obligation to comply with this subpart is not affected by any inconsistent term of any collective bargaining agreement to which it is a party.

§ 84.12 Reasonable accommodation.

(a) A recipient shall make reasonable accommodation to the known physical or mental limitations of an otherwise qualified handicapped applicant or employee unless the recipient can demonstrate that the accommodation would impose an undue hardship on the operation of its program.

(b) Reasonable accommodation may include: (1) Making facilities used by employees readily accessible to and usable by handicapped persons, and (2) job restructuring, part-time or modified work schedules, acquisition or modification of equipment or devices, the provision of readers or interpreters, and other similar actions.

(c) In determining pursuant to paragraph (a) of this section whether an accommodation would impose an undue hardship on the operation of a recipient's program, factors to be considered include:

(1) The overall size of the recipient's program with respect to number of employees, number and type of facilities, and size of budget;

(2) The type of the recipient's operation, including the composition and structure of the recipient's workforce; and

(3) The nature and cost of the accommodation needed.

(d) A recipient may not deny any employment opportunity to a qualified handicapped employee or applicant if the basis for the denial is the need to make reasonable accommodation to the physical or mental limitations of the employee or applicant.

§ 84.13 Employment criteria.

(a) A recipient may not make use of any employment test or other selection criterion that screens out or tends to screen out handicapped persons or any class of handicapped persons unless: (1) The test score or other selection criterion, as used by the recipient, is shown to be job-related for the position in question, and (2) alternative job-related tests or criteria that do not screen out or tend to screen out as many handicapped persons are not shown by the Director to be available.

(b) A recipient shall select and administer tests concerning employment so as best to ensure that, when administered to an applicant or employee who has a handicap that impairs sensory, manual, or speaking skills, the test results accurately reflect the applicant's or employee's job skills, aptitude, or whatever other factor the test purports to measure, rather than reflecting the applicant's or employee's impaired sensory, manual, or speaking skills (except where those skills are the factors that the test purports to measure).

§ 84.14 Preemployment inquiries.

(a) Except as provided in paragraphs (b) and (c) of this section, a recipient may not conduct a preemployment medical examination or may not make preemployment inquiry of an applicant as to whether the applicant is a handicapped person or as to the nature or severity of a handicap. A recipient may, however, make preemployment inquiry into an applicant's ability to perform job-related functions.

(b) When a recipient is taking remedial action to correct the effects of past discrimination pursuant to § 84.6 (a), when a recipient is taking voluntary action to overcome the effects of conditions that resulted in limited participation in its federally assisted program or activity pursuant to § 84.6(b), or when a recipient is taking affirmative action pursuant to section 503 of the Act, the recipient may invite applicants for employment to indicate whether and to what extent they are handicapped, *Provided*, That:

(1) The recipient states clearly on any written questionnaire used for this purpose or makes clear orally if no written questionnaire is used that the information requested is intended for use solely in connection with its remedial action obligations or its voluntary or affirmative action efforts; and

(2) The recipient states clearly that the information is being requested on a voluntary basis, that it will be kept confidential as provided in paragraph (d) of this section, that refusal to provide it will not subject the applicant or employee to any adverse treatment, and that it will be used only in accordance with this part.

(c) Nothing in this section shall prohibit a recipient from conditioning an offer of employment on the results of a medical examination conducted prior to the employee's entrance on duty, *Provided*, That: (1) All entering employees are subjected to such an examination regardless of handicap, and (2) the results of such an examination are used only in accordance with the requirements of this part.

(d) Information obtained in accordance with this section as to the medical condition or history of the applicant shall be collected and maintained on separate forms that shall be accorded confidentiality as medical records, except that:

(1) Supervisors and managers may be informed regarding restrictions on the work or duties of handicapped persons and regarding necessary accommodations;

(2) First aid and safety personnel may be informed, where appropriate, if the condition might require emergency treatment; and

(3) Government officials investigating compliance with the Act shall be provided relevant information upon request.

§§ 84.15—84.20 [Reserved]

Subpart C—Program Accessibility

§ 84.21 Discrimination prohibited.

No qualified handicapped person shall, because a recipient's facilities are inaccessible to or unusable by handicapped persons, be denied the benefits of, be excluded from participation in, or otherwise be subjected to discrimination under any program or activity to which this part applies.

* * * *

Subpart E—Postsecondary Education

§ 84.41 Application of this subpart.

Subpart E applies to postsecondary education programs and activities, including postsecondary vocational education programs and activities, that receive or benefit from Federal financial assistance and to recipients that operate, or that receive or benefit from Federal financial assistance for the operation of, such programs or activities.

§ 84.42 Admissions and recruitment.

(a) *General.* Qualified handicapped persons may not, on the basis of handicap, be denied admission or be subjected to discrimination in admission or recruitment by a recipient to which this subpart applies.

(b) *Admissions.* In administering its admission policies, a recipient to which this subpart applies:

(1) May not apply limitations upon the number or proportion of handicapped persons who may be admitted;

(2) May not make use of any test or criterion for admission that has a disproportionate, adverse effect on handicapped persons or any class of handicapped persons unless (i) the test or criterion, as used by the recipient, has been validated as a predictor of success in the education program or activity in question and (ii) alternate tests or criteria that have a less disproportionate, adverse effect are not shown by the Director to be available.

(3) Shall assure itself that (i) admissions tests are selected and administered so as best to ensure that, when a test is administered to an applicant who has a handicap that impairs sen-

sory, manual, or speaking skills, the test results accurately reflect the applicant's aptitude or achievement level or whatever other factor the test purports to measure, rather than reflecting the applicant's impaired sensory, manual, or speaking skills (except where those skills are the factors that the test purports to measure); (ii) admissions tests that are designed for persons with impaired sensory, manual, or speaking skills are offered as often and in as timely a manner as are other admissions tests; and (iii) admissions tests are administered in facilities that, on the whole, are accessible to handicapped persons; and

(4) Except as provided in paragraph (c) of this section, may not make preadmission inquiry as to whether an applicant for admission is a handicapped person but, after admission, may make inquiries on a confidential basis as to handicaps that may require accommodation.

(c) *Preadmission inquiry exception.* When a recipient is taking remedial action to correct the effects of past discrimination pursuant to § 84.6(a) or when a recipient is taking voluntary action to overcome the effects of conditons that resulted in limited participation in its federally assisted program or activity pursuant to § 84.6(b), the recipient may invite applicants for admission to indicate whether and to what extent they are handicapped, *Provided*, That:

(1) The recipient states clearly on any written questionnaire used for this purpose or makes clear orally if no written questionnaire is used that the information requested is intended for use solely in connection with its remedial action obligations or its voluntary action efforts; and

(2) The recipient states clearly that the information is being requested on a voluntary basis, that it will be kept confidential, that refusal to provide it will not subject the applicant to any adverse treatment, and that it will be used only in accordance with this part.

(d) *Validity studies.* For the purpose of paragraph (b)(2) of this section, a recipient may base prediction equations on first year grades, but shall conduct periodic validity studies against the criterion of overall success in the education program or activity in question in order to monitor the general validity of the test scores.

§ 84.43 Treatment of students; general.

(a) No qualified handicapped student shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any academic, research, occupational training, housing, health insurance, counseling, financial aid, physical education, athletics, recreation, transportation, other extracurricular, or other posesecodary education program or activity to which this subpart applies.

(b) A recipient to which this subpart applies that considers participation by students in education programs or activities not operated wholly by the recipient as part of, or equivalent to, and education program or activity operated by the recipient shall assure itself that the other education program or activity, as a whole, privides an equal opportunity for the participation of qualified handicapped persons.

(c) A recipient to which this subpart applies may not, on the basis of handicap, exclude any qualified handicapped student from any course, course of study, or other part of its education program or activity.

(d) A recipient to which this subpart applies shall operate its programs and activities in the most integrated setting appropriate.

§ 84.44 Academic adjustments.

(a) *Academic requirements.* A recipient to which this subpart applies shall make such modifications to its academic requirements as are necessary to ensure that such requirements do not discriminate or have the effect of discriminating, on the basis of handicap, against a qualified handicapped applicant or student. Academic requirements that the recipient can demonstrate are essential to the program of instruction being pursued by such student or to any directly related licensing requirement will not be regarded as discriminatory within the meaning of this section. Modifications may include changes in the length of time permitted for the completion of

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degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted.

(b) *Other rules.* A recipient to which this subpart applies may not impose upon handicapped students other rules, such as the prohibition of tape recorders in classrooms or of dog guides in campus buildings, that have the effect of limiting the participation of handicapped students in the recipient's education program or activity.

(c) *Course examinations.* In its course examinations or other procedures for evaluating students' academic achievement in its program, a recipient to which this subpart applies shall provide such methods for evaluating the achievement of students who have a handicap that impairs sensory, manual, or speaking skills as will best ensure that the results of the evaluation represents the student's achievement in the course, rather than reflecting the student's impaired sensory, manual, or speaking skills (except where such skills are the factors that the test purports to measure).

(d) *Auxiliary aids.* (1) A recipient to which this subpart applies shall take such steps as are necessary to ensure that no handicapped student is denied the benefits of, excluded from participation in, or otherwise subjected to discrimination under the education program or activity operated by the recipient because of the absence of educational auxiliary aids for students with impaired sensory, manual, or speaking skills.

(2) Auxiliary aids may include taped texts, interpreters or other effective methods of making orally delivered materials available to students with hearing impairments, readers in libraries for students with visual impairments, classroom equipment adapted for use by students with manual impairments, and other similar services and actions. Recipients need not provide attendants, individually prescribed devices, readers for personal use or study, or other devices or services of a personal nature.

§ 84.45 Housing.

(a) *Housing provided by the recipient.* A recipient that provides housing to its nonhandicapped students shall provide comparable, convenient, and accessible housing to handicapped students at the same cost as to others. At the end of the transition period provided for in Subpart C, such housing shall be available in sufficient quantity and variety so that the scope of handicapped students' choice of living accommodations is, as a whole, comparable to that of nonhandicapped students.

(b) *Other housing.* A recipient that assists any agency, organization, or person in making housing available to any of its students shall take such action as may be necessary to assure itself that such housing is, as a whole, made available in a manner that does not result in discrimination on the basis of handicap.

§ 84.46 Financial and employment assistance to students.

(a) *Provision of financial assistance.* (1) In providing financial assistance to qualified handicapped persons, a recipient to which this subpart applies may not (i), on the basis of handicap, provide less assistance than is provided to nonhandicapped persons, limit eligibility for assistance, or otherwise discriminate or (ii) assist any entity or person that provides assistance to any of the recipient's students in a manner that discriminates against qualified handicapped persons on the basis of handicap.

(2) A recipient may administer or assist in the administration of scholarships, fellowships, or other forms of financial assistance established under wills, trusts, bequests, or similar legal instruments that require awards to be made on the basis of factors that discriminate or have the effect of discriminating on the basis of handicap only if the overall effect of the award of scholarships, fellowships, and other forms of financial assistance is not discriminatory on the basis of handicap.

(b) *Assistance in making available outside employment.* A recipient that assists any agency, organization, or person in providing employment opportunities to any of its students shall assure itself that such employment opportunities, as a whole, are made available in a manner that would not violate Subpart B if they were provided by the recipient.

(c) *Employment of students by recipients.* A recipient that employs any of its students may not do so in a manner that violates Subpart B.

§ 84.47 Nonacademic services.

(a) *Physical education and athletics.* (1) In providing physical education courses and athletics and similar programs and activities to any of its students, a recipient to which this subpart applies may not discriminate on the basis of handicap. A recipient that offers physical education courses or that operates or sponsors intercollegiate, club, or intramural athletics shall provide to qualified handicapped students an equal opportunity for participation in these activities.

(2) A recipient may offer to handicapped students physical education and athletic activities that are separate or different only if separation or differentiation is consistent with the requirements of § 84.43(d) and only if no qualified handicapped student is denied the opportunity to compete for teams or to participate in courses that are not separate or different.

(b) *Counseling and placement services.* A recipient to which this subpart applies that provides personal, academic, or vocational counseling, guidance, or placement services to its students shall provide these services without discrimination on the basis of handicap. The recipient shall ensure that qualified handicapped students are not counseled toward more restrictive career objectives than are nonhandicapped students with similar interests and abilities. This requirement does not preclude a recipient from providing factual information about licensing and certification requirements that may present obstacles to handicapped persons in their pursuit of particular careers.

(c) *Social organizations.* A recipient that provides significant assistance to fraternities, sororities, or similar organizations shall assure itself that the membership practices of such organizations do not permit discrimination otherwise prohibited by this subpart.

§§ 84.48—84.50 [Reserved]

Subpart F—Health, Welfare, and Social Services

§ 84.51 Application of this subpart.

Subpart F applies to health, welfare, and other social service programs and activities that receive or benefit from Federal financial assistance and to recipients that operate, or that receive or benefit from Federal financial assistance for the operation of, such programs or activities.

§ 84.52 Health, welfare, and other social services.

(a) *General.* In providing health, welfare, or other social services or benefits, a recipient may not, on the basis of handicap:

(1) Deny a qualified handicapped person these benefits or services;

(2) Afford a qualified handicapped person an opportunity to receive benefits or services that is not equal to that offered nonhandicapped persons;

(3) Provide a qualified handicapped person with benefits or services that are not as effective (as defined in § 84.4(b)) as the benefits or services provided to others;

(4) Provide benefits or services in a manner that limits or has the effect of limiting the participation of qualified handicapped persons; or

(5) Provide different or separate benefits or services to handicapped persons except where necessary to provide qualified handicapped persons with benefits and services that are as effective as those provided to others.

(b) *Notice.* A recipient that provides notice concerning benefits or services or written material concerning waivers of rights or consent to treatment shall take such steps as are necessary to ensure that qualified handicapped persons, including those with impaired sensory or speaking skills, are not denied effective notice because of their handicap.

(c) *Emergency treatment for the hearing impaired.* A recipient hospital that provides health services or benefits shall establish a procedure for effective communication with persons with impaired hearing for the purpose of providing emergency health care.

(d) *Auxiliary aids.* (1) A recipient to which this subpart applies that employs fifteen or more persons shall provide appropriate auxiliary aids to persons with impaired sensory, manual, or speaking skills, where necessary to afford such persons an equal opportunity to benefit from the service in question.

(2) The Director may require recipients with fewer than fifteen employees to provide auxiliary aids where the provision of aids would not significantly impair the ability of the recipient to provide its benefits or services.

(3) For the purpose of this paragraph, auxiliary aids may include brailled and taped material, interpreters, and other aids for persons with impaired hearing or vision.

* * * *

Subpart G—Procedures

§ 84.61 Procedures.

The procedural provisions applicable to title VI of the Civil Rights Act of 1964 apply to this part. These procedures are found in §§ 80.6 through 80.10 and Part 81 of this Title.

[42 FR 22677, May 4, 1977; 42 FR 22888, May 5, 1977]

Note: Except for the names of the government officials and the specific departments involved, these regulations are identical to the Health and Human Services regulations, and therefore are not included in their entirety. Ed.

PART 104—NONDISCRIMINATION ON THE BASIS OF HANDICAP IN PROGRAMS RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE

Subpart A—General Provisions

Sec.
104.1 Purpose.
104.2 Application.
104.3 Definitions.
104.4 Discrimination prohibited.
104.5 Assurances required.
104.6 Remedial action, voluntary action, and self-evaluation.
104.7 Designation of responsible employee and adoption of grievance procedures.
104.8 Notice.
104.9 Administrative requirements for small recipients.
104.10 Effect of state or local law or other requirements and effect of employment opportunities.

Subpart B—Employment Practices

104.11 Discrimination prohibited.
104.12 Reasonable accommodation.
104.13 Employment criteria.
104.14 Preemployment inquiries.

Subpart C—Program Accessibility

104.21 Discrimination prohibited.
104.22 Existing facilities.
104.23 New construction.

Subpart D—Preschool, Elementary, and Secondary Education

104.31 Application of this subpart.
104.32 Location and notification.
104.33 Free appropriate public education.
104.34 Educational setting.
104.35 Evaluation and placement.
104.36 Procedural safeguards.
104.37 Nonacademic services.
104.38 Preschool and adult education programs.
104.39 Private education programs.

Subpart E—Postsecondary Education

104.41 Application of this subpart.
104.42 Admissions and recruitment.
104.43 Treatment of students; general.
104.44 Academic adjustments.
104.45 Housing.
104.46 Financial and employment assistance to students.
104.47 Nonacademic services.

Subpart F—Health, Welfare, and Social Services

104.51 Application of this subpart.
104.52 Health, welfare, and other social services.
104.53 Drug and alcohol addicts.
104.54 Education of institutionalized persons.

Subpart G—Procedures

104.61 Procedures.

APPENDIX A TO PART 104—ANALYSIS OF FINAL REGULATION
APPENDIX B TO PART 104—GUIDELINES FOR ELIMINATING DISCRIMINATION AND DENIAL OF SERVICES ON THE BASIS OF RACE, COLOR, NATIONAL ORIGIN, SEX, AND HANDICAP IN VOCATIONAL EDUCATION PROGRAMS [NOTE]

AUTHORITY: Sec. 504, Rehabilitation Act of 1973, Pub. L. 93-112, 87 Stat. 394 (29 U.S.C. 794); sec. 111(a), Rehabilitation Act Amendments of 1974, Pub. L. 93-516, 88 Stat. 1619 (29 U.S.C. 706); sec. 606, Education of the Handicapped Act (20 U.S.C. 1405), as amended by Pub. L. 94-142, 89 Stat. 795.

SOURCE: 45 FR 30936, May 9, 1980, unless otherwise noted.

EFFECTIVE DATE NOTE: For an interpretation document affecting Part 104, see 46 FR 4912, Jan. 19, 1981. The effective date of the interpretation was deferred to March 30, 1981, at 46 FR 12495, Feb. 17, 1981. The effective date was again deferred to May 10, 1981, at 46 FR 18975, Mar. 27, 1981, and deferred until further notice at 46 FR 25614, May 8, 1981.

Subpart A—General Provisions

§ 104.1 Purpose.

The purpose of this part is to effectuate section 504 of the Rehabilitation Act of 1973, which is designed to eliminate discrimination on the basis of handicap in any program or activity receiving Federal financial assistance.

§ 104.2 Application.

This part applies to each recipient of Federal financial assistance from the Department of Education and to each program or activity that receives or benefits from such assistance.

§ 104.3 Definitions.

As used in this part, the term:

(a) "The Act" means the Rehabilitation Act of 1973, Pub. L. 93-112, as amended by the Rehabilitation Act Amendments of 1974, Pub. L. 93-516, 29 U.S.C. 794.

(b) "Section 504" means section 504 of the Act.

(c) "Education of the Handicapped Act" means that statute as amended by the Education for all Handicapped Children Act of 1975, Pub. L. 94-142, 20 U.S.C. 1401 et seq.

(d) "Department" means the Department of Education.

(e) "Assistant Secretary" means the Assistant Secretary for Civil Rights of the Department of Education.

(f) "Recipient" means any state or its political subdivision, any instrumentality of a state or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or

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transferee of a recipient, but excluding the ultimate beneficiary of the assistance.

(g) "Applicant for assistance" means one who submits an application, request, or plan required to be approved by a Department official or by a recipient as a condition to becoming a recipient.

(h) "Federal financial assistance" means any grant, loan, contract (other than a procurement contract or a contract of insurance or guaranty), or any other arrangement by which the Department provides or otherwise makes available assistance in the form of:

(1) Funds;

(2) Services of Federal personnel; or

(3) Real and personal property or any interest in or use of such property, including:

(i) Transfers or leases of such property for less than fair market value or for reduced consideration; and

(ii) Proceeds from a subsequent transfer or lease of such property if the Federal share of its fair market value is not returned to the Federal Government.

(i) "Facility" means all or any portion of buildings, structures, equipment, roads, walks, parking lots, or other real or personal property or interest in such property.

(j) "Handicapped person." (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.

(2) As used in paragraph (j)(1) of this section, the phrase:

(i) "Physical or mental impairment" means (A) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive, digestive, genito-urinary; hemic and lymphatic; skin; and endocrine; or (B) any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.

(ii) "Major life activities" means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

(iii) "Has a record of such an impairment" means has a history of, or has been misclassified as having, a mental or physical impairment that substantially limits one or more major life activities.

(iv) "Is regarded as having an impairment" means (A) has a physical or mental impairment that does not substantially limit major life activities but that is treated by a recipient as constituting such a limitation; (B) has a physical or mental impairment that substantially limits major life activities only as a result of the attitudes of others toward such impairment; or (C) has none of the impairments defined in paragraph (j)(2)(i) of this section but is treated by a recipient as having such an impairment.

(k) "Qualified handicapped person" means:

(1) With respect to employment, a handicapped person who, with reasonable accommodation, can perform the essential functions of the job in question;

(2) With respect to public preschool elementary, secondary, or adult educational services, a handicappped person (i) of an age during which nonhandicapped persons are provided such services, (ii) of any age during which it is mandatory under state law to provide such services to handicapped persons, or (iii) to whom a state is required to provide a free appropriate public education under section 612 of the Education of the Handicapped Act; and

(3) With respect to postsecondary and vocational education services, a handicapped person who meets the academic and technical standards requisite to admission or participation in the recipient's education program or activity;

(4) With respect to other services, a handicapped person who meets the essential eligibility requirements for the receipt of such services.

(l) "Handicap" means any condition or characteristic that renders a person a handicapped person as defined in paragraph (j) of this section.

§ 104.4 Discrimination prohibited.

(a) *General.* No qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activitiy which receives or benefits from Federal financial assistance.

(b) *Discriminatory actions prohibited.* (1) A recipient, in providing any aid, benefit, or service, may not, directly or through contractual, licensing, or other arrangements, on the basis of handicap:

(i) Deny a qualified handicapped person the opportunity to participate in or benefit from the aid, benefit, or service;

(ii) Afford a qualified handicapped person an opportunity to participate in or benefit from the aid, benefit, or service that is not equal to that afforded others;

(iii) Provide a qualified handicapped person with an aid, benefit, or service that is not as effective as that provided to others;

(iv) Provide different or separate aid, benefits, or services to handicapped persons or to any class of handicapped persons unless such action is necessary to provide qualified handicapped persons with aid, benefits, or services that are as effective as those provided to others;

(v) Aid or perpetuate discrimination against a qualified handicapped person by providing significant assistance to an agency, organization, or person that discriminates on the basis of handicap in providing any aid, benefit, or service to beneficiaries of the recipients program;

(vi) Deny a qualified handicapped person the opportunity to participate as a member of planning or advisory boards; or

(vii) Otherwise limit a qualified handicapped person in the enjoyment of any right, privilege, advantage, or opportunity enjoyed by others receiving an aid, benefit, or service.

(2) For purposes of this part, aids, benefits, and services, to be equally effective, are not required to produce the identical result or level of achievement for handicapped and nonhandicapped persons, but must afford handicapped persons equal opportunity to obtain the same result, to gain the same benefit, or to reach the same level of achievement, in the most integrated setting appropriate to the person's needs.

(3) Despite the existence of separate or different programs or activities provided in accordance with this part, a recipient may not deny a qualified handicapped person the opportunity to participate in such programs or activities that are not separate or different.

(4) A recipient may not, directly or through contractual or other arrangements, utilize criteria or methods of administration (i) that have the effect of subjecting qualified handicapped persons to discrimination on the basis of handicap, (ii) that have the purpose or effect of defeating or substantially impairing accomplishment of the objectives of the recipient's program with respect to handicapped persons, or (iii) that perpetuate the discrimination of another recipient if both recipients are subject to common administrative control or are agencies of the same State.

(5) In determining the site or location of a facility, an applicant for assistance or a recipient may not make selections (i) that have the effect of excluding handicapped persons from, denying them the benefits of, or otherwise subjecting them to discrimination under any program or activity that receives or benefits from Federal financial assistance or (ii) that have the purpose or effect of defeating or substantially impairing the accomplishment of the objectives of the program or activity with respect to handicapped persons.

(6) As used in this section, the aid, benefit, or service provided under a program or activity receiving or benefiting from Federal financial assistance includes any aid, benefit, or service provided in or through a facility that has been constructed, expanded, altered, leased or rented, or otherwise acquired, in whole or in part, with Federal financial assistance.

(c) *Programs limited by Federal law.* The exclusion of nonhandicapped persons from the benefits of a program limited by Federal statute or executive order to handicapped persons or the exclusion of a specific class of handicapped persons from a program limited by Federal statute or executive order to a different class of handicapped persons is not prohibited by this part.

§ 12101. Congressional findings and purposes

(a) **Findings.** The Congress finds that --

(1) some 43,000,000 Americans have one or more physical or mental disabilities, and this number is increasing as the population as a whole is growing older;

(2) historically, society has tended to isolate and segregate individuals with disabilities, and despite some improvements, such forms of discrimination against individuals with disabilities continue to be a serious and pervasive social problem;

(3) discrimination against individuals with disabilities persists in such critical areas as employment, housing, public accommodations, education, transportation, communication, recreation, institutionalization, health services, voting and access to public services;

(4) unlike individuals who have experienced discrimination on the basis of race, color, sex, national origin, religion, or age, individuals who have experienced discrimination on the basis of disability have often had no legal recourse to redress such discrimination;

(5) individuals with disabilities continually encounter various forms of discrimination, including outright intentional exclusion, the discriminatory effects of architectural, transportation, and communication barriers, overprotective rules and policies, failure to make modifications to existing facilities and practices, exclusionary qualification standards, and criteria, segregation, and relegation to lesser services, programs, activities, benefits, jobs or other opportunities;

(6) census data, national polls, and other studies have documented that people with disabilities, as a group, occupy an inferior status in our society, and are severely disadvantaged socially, vocationally, economically, and educationally;

(7) individuals with disabilities are a discrete and insular minority who have been faced with restrictions and limitations, subjected to a history of purposeful unequal treatment, and relegated to a position of political powerlessness in our society, based on characteristics that are beyond the control of such individuals and resulting from stereotypic assumptions not truly indicative of the individual ability of such individuals to participate in, and contribute, to society;

(8) the Nation's proper goals regarding individuals with disabilities are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for such individuals; and

(9) the continuing existence of unfair and unnecessary discrimination and prejudice denies people with disabilities the opportunity to compete on an equal basis and to pursue those opportunities for which our free society is justifiably famous, and costs the United States billions of dollars in unnecessary expenses resulting from dependency and nonproductivity.

(b) **Purpose.** It is the purpose of this Act --

(1) to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities;

(2) to provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities;

[**NOTE:** The Americans with Disabilities Act will not become effective until July 26, 1992.]

(3) to ensure that the Federal Government plays a central role in enforcing the standards established in this Act on behalf of individuals with disabilities; and

(4) to invoke the sweep of congressional authority, including the power to enforce the fourteenth amendment and to regulate commerce, in order to address the major areas of discrimination faced day-to-day by people with disabilities.

(July 26, 1990, P.L. 101-336, § 2, 104 Stat. 328.)

§ 12102. Definitions

As used in this Act: . . . .

(2) Disability. The term "disability" means, with respect to an individual --

(A) a physical or mental impairment that substantially limits one or more of the major life activities of such individual;

(B) a record of such an impairment; or

(C) being regarded as having such an impairment.

. . . .

EMPLOYMENT

§ 12111. Definitions [Caution: For prospective effective date, see the Effective date of section note]

As used in this title:

(1) Commission. The term "Commission" means the Equal Employment Opportunity Commission established by section 705 of the Civil Rights Act of 1964 (42 U.S.C. 2000e-4).

(2) Covered entity. The term "covered entity" means an employer, employment agency, labor organization, or joint labor-management committee.

(3) Direct threat. The term "direct threat" means a significant risk to the health or safety of others that cannot be eliminated by reasonable accommodation. . . .

(8) Qualified individual with a disability. The term "qualified individual with a disability" means an individual with a disability who, with or without reasonable accommodation, can perform the essential functions of the employment position that such individual holds or desires. For the purposes of this title, consideration shall be given to the employer's judgement as to what functions of a job are essential, and if an employer has prepared a written description before advertising or interviewing applicants for the job, this description shall be considered evidence of the essential functions of the job.

(9) Reasonable accommodation. The term "reasonable accommodation" may include --

(A) making existing facilities used by employees readily accessible to and usable by individuals with disabilities; and

(B) job restructuring, part-time or modified work schedules, reassignment to a vacant position, acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training materials, or policies, the provision of qualified readers or interpreters and other similar accommodations for individuals with disabilities.

(10) Undue hardship. (A) In general. The term "undue hardship" means an action requiring significant difficulty or expense, when considered in light of the factors set forth in subparagraph (B).

(B) Factors to be considered. In determining whether an accommodation would impose an undue hardship on a covered entity, factors to be considered include --

(i) the nature and cost of the accommodation needed under this Act;

(ii) the overall financial resources of the facility or facilities involved in the provision of the reasonable accommodation; the number of persons employed at such facility; the effect on expenses and resources, or the impact otherwise of such accommodation upon the operation of the facility;

(iii) the overall financial resources of the covered entity; the overall size of the business of a covered entity with respect to the number of its employees; the number, type, and location of its facilities; and

(iv) the type of operation or operations of the covered entity, including the composition, structure, and functions of the workforce of such entity; the geographic separateness, administrative, or fiscal relationship of the facility or facilities in question to the covered entity.

(July 26, 1990, P.L. 101-336, Title I, § 101, 104 Stat. 330.). . . .

§ 12112. Discrimination

(a) General rule. No covered entity shall discriminate against a qualified individual with a disability because of the disability of such individual in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and other terms, conditions, and privileges of employment.

(b) Construction. As used in subsection (a), the term "discriminate" includes --

(1) limiting, segregating or classifying a job applicant or employee in a way that adversely affects the opportunities or status of such applicant or employee because of the disability or such applicant or employee;

(2) participating in a contractual or other arrangement or relationship that has the effect of subjecting a covered entity's qualified applicant or employee with a disability to the discrimination prohibited by this title (such relationship includes a relationship with an employment or referral agency, labor union, an organization providing fringe benefits to an employee of the covered entity, or an organization providing training and apprenticeship programs);

(3) utilizing standards, criteria, or methods of administration --

(A) that have the effect of discrimination on the basis of disability; or

(B) that perpetuate the discrimination of others who are subject to common administrative control;

(4) excluding or otherwise denying equal jobs or benefits to a qualified individual because of the known disability of an individual with whom the qualified individual is known to have a relationship or association;

(5) (A) not making reasonable accommodations to the known physical or mental limitations of an otherwise qualified individual with a disability who is an applicant or employee, unless such covered entity can demonstrate that the accommodation would impose an

undue hardship on the operation of the business of such covered entity; or

(B) denying employment opportunities to a job applicant or employee who is an otherwise qualified individual with a disability, if such denial is based on the need of such covered entity to make reasonable accommodation to the physical or mental impairments of the employee or applicant;

(6) using qualification standards, employment tests or other selection criteria that screen out or tend to screen out an individual with a disability or a class of individuals with disabilities unless the standard, test or other selection criteria, as used by the covered entity, is shown to be job-related for the position in question and is consistent with business necessity; and

(7) failing to select and administer tests concerning employment in the most effective manner to ensure that, when such test is administered to a job applicant or employee who has a disability that impairs sensory, manual, or speaking skills, such test results accurately reflect the skills, aptitude, or whatever other factor of such applicant or employee that such test purports to measure, rather than reflecting the impaired sensory, manual, or speaking skills of such employee or applicant (except where such skills are the factors that the test purports to measure).

(c) **Medical examinations and inquiries. (1) In general.** The prohibition against discrimination as referred to in subsection (a) shall include medical examinations and inquiries.

(2) Preemployment. (A) Prohibited examination or inquiry. Except as provided in paragraph (3), a covered entity shall not conduct a medical examination or make inquiries of a job applicant as to whether such applicant is an individual with a disability or as to the nature or severity of such disability.

(B) Acceptable inquiry. A covered entity may make preemployment inquiries into the ability of an application to perform job-related functions.

(3) Employment entrance examination. A covered entity may require a medical examination after an offer of employment has been made to a job applicant and prior to the commencement of the employment duties of such applicant, and may condition an offer of employment on the results of such examination, if --

(A) all entering employees are subjected to such an examination regardless of disability;

(B) information obtained regarding the medical condition or history of the applicant is collected and maintained on separate forms and in separate medical files and is treated as a confidential medical record, except that --

(i) supervisors and managers may be informed regarding necessary restrictions on the work or duties of the employee and necessary accommodations;

(ii) first aid and safety personnel may be informed, when appropriate, if the disability might require emergency treatment; and

(iii) government officials investigating compliance with this Act shall be provided relevant information on request; and

(C) the results of such examination are used only in accordance with this title.

(4) Examination and inquiry. (A) Prohibited examinations and inquiries. A covered entity shall not require a medical examination and shall not make inquiries of an employee as to

whether such employee is an individual with a disability or as to the nature or severity of the disability, unless such examination or inquiry is shown to be job-related and consistent with business necessity.

(B) Acceptable examination and inquiries. A covered entity may conduct voluntary medical examinations, including voluntary medical histories, which are part of an employee health program, available to employees at that work site. A covered entity may make inquiries into the ability of an employee to perform job-related functions.

(C) Requirement. Information obtained under subparagraph (B) regarding the medical condition or history of any employee are subject to the requirements of subparagraphs (B) and (C) of paragraph (3).

(July 26, 1990, P.L. 101-336, Title I, § 102, 104 Stat. 331.). . . .

§ 12113. Defenses

(a) In general. It may be a defense to a charge of discrimination under this Act that an alleged application of qualification standards, tests, or selection criteria that screen out or tend to screen out or otherwise deny a job or benefit to an individual with a disability has been shown to be job-related and consistent with business necessity, and such performance cannot be accomplished by reasonable accommodation, as required under this title.

(b) Qualification standards. The term "qualification standards" may include a requirement than an individual shall not pose a direct threat to the health or safety of other individuals in the workplace.

(c) Religious entities. (1) In general. This title shall not prohibit a religious corporation, association, educational institution, or society from giving preference in employment to individuals of a particular religion to perform work connected with the carrying on by such corporation, association, educational institution, or society of its activities.

(2) Religious tenets requirement. Under this title, a religious organization may require that all applicants and employees conform to the religious tenets of such organization.

(d) List of infectious and communicable diseases. (1) In general. The Secretary of Health and Human Services, not later than 6 months after the date of enactment of this Act [enacted July 26, 1990], shall --

(A) review all infectious and communicable diseases which may be transmitted through handling the food supply;

(B) publish a list of infectious and communicable diseases which are transmitted through handling the food supply;

(C) publish the methods by which such diseases are transmitted; and

(D) widely disseminate such information regarding the list of diseases and their modes of transmissibility to the general public.

Such list shall be updated annually.

(2) Applications. In any case in which an individual has an infectious or communicable disease that is transmitted to others through the handling of food, that is included on the list developed by the Secretary of Health and Human Services under paragraph (1), and which cannot be eliminated by reasonable accommodation, a covered entity may refuse to assign or continue to assign such individual to a job involving food handling.

(3) Construction. Nothing in this Act shall be construed to preempt, modify, or amend any State, county, or local law, ordinance, or regulation applicable to food handling which is designed to protect the

public health from individuals who pose a significant risk to the health or safety of others, which cannot be eliminated by reasonable accommodation, pursuant to the list of infectious or communicable diseases and the modes of transmissibility published by the Secretary of Health and Human Services.
(July 26, 1990, P.L. 101-336, Title I, § 103, 104 Stat. 333.). . . .

§ 12117. Enforcement

(a) Powers, remedies, and procedures. The powers, remedies, and procedures set forth in sections 705, 706, 707, 709, and 710 of the Civil Rights Act of 1964 (42 U.S.C. 2000e-4,2000e-5, 2000e-6, 2000e-8, and 2000e-9) shall be the powers, remedies, and procedures this title provides to the Commission, to the Attorney General, or to any person alleging discrimination on the basis of disability in violation of any provision of this Act, or regulations promulgated under section 106 [42 USCS § 12116], concerning employment.

(b) Coordination. The agencies with enforcement authority for actions which allege employment discrimination under this title and under the Rehabilitation Act of 1973 shall develop procedures to ensure that administrative complaints filed under this title and under the Rehabilitation Act of 1973 are dealt with in a manner that avoids duplication of effort and prevents imposition of inconsistent or conflicting standards for the same requirements under this title and the Rehabilitation Act of 1973. The Commission, the Attorney General and the Office of Federal Contract Compliance Programs shall establish such coordinating, mechanisms (similar to provisions contained in the joint regulations promulgated by the Commission and Federal Regulations, and the Memorandum of Understanding between the Commission and the Office of Federal Contract Compliance Programs dated January 16, 1981 (46 Fed. Reg. 7435, January 23, 1981)) in regulations implementing this title and Rehabilitation Act of 1973 not later than 18 months after the date of enactment of this Act [enacted July 26, 1990].
(July 26, 1990, P.L. 101-336, Title I, § 107, 104 Stat. 336.). . . .

PUBLIC SERVICES

PROHIBITION AGAINST DISCRIMINATION AND OTHERS GENERALLY APPLICABLE PROVISIONS

§ 12131. Definition

As used in this title:

(1) Public entity. The term "public entity" means --
 (A) any State or local government;
 (B) any department, agency, special purpose district, or other instrumentality of a State or States or local government; and
 (C) the National Railroad Passenger Corporation, and any commuter authority (as defined in section 103(8) of the Rail Passenger Service Act [45 USCS § 502(8)]).

(2) Qualified individual with a disability. The term "qualified individual with a disability" means an individual with a disability who, with or without reasonable modifications to rules, policies, or practices, the removal of architectural, communication, or transportation barriers, or the provision of auxiliary aids and services, meets the essential eligibility requirements for the receipt of services or the participation in programs or activities provided by a public entity.

(July 26, 2990, P.L. 101-336, Title II, Subtitle A, § 201, 104 Stat. 337.). . . .

§ 12132. Discrimination

Subject to the provisions of this title, no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.
(July 26, 1990, P.L. 101-336, Title II, Subtitle A. § 202, 104 Stat. 337.). . . .

§ 12133. Enforcement

The remedies, procedures, and rights set forth in section 505 of the Rehabilitation Act of 1973 (29 U.S.C. 794a) shall be the remedies, procedures, and rights this title provides to any person alleging discrimination on the basis of disability in violation of section 202 [42 USCS § 12132].
(July 26, 1990, P.L. 101-336, Title II, Subtitle A, § 203, 104 Stat. 337.). . . .

PUBLIC ACCOMMODATIONS AND SERVICES OPERATED BY PRIVATE ENTITIES

§ 12181. Definitions

As used in this title:

(1) Commerce. The term "commerce" means travel, trade, traffic, commerce, transportation, or communication --

(A) among the several States

(B) between any foreign country or any territory or possession and any State; or

(C) between points in the same State but through another State or foreign country. . . .

(7) Public accommodation. The following private entities are considered public accommodations for purposes of this title, if the operations of such entities affect commerce --. . . .

(F) a laundromat, dry-cleaner, bank, barber ship, beauty shop, travel service, shoe repair service, funeral parlor, gas station, office of an accountant or lawyer, pharmacy, insurance office, professional office of a health care provider, hospital, or other service establishment;. . . .

(J) a nursery, elementary, secondary, undergraduate, or postgraduate private school, or other place of education;. . . .

(9) Readily achievable. The term "readily achievable" means easily accomplishable and able to be carried out without much difficulty or expense. In determining whether an action is readily achievable, factors to be considered include --

(A) the nature and cost of the action needed under this Act;

(B) the overall financial resources of the facility or facilities involved in the action; the number of persons employed at such facility; the effect on expenses and resources, or the impact otherwise of such action upon the operation of the facility;

(C) the overall financial resources of the covered entity; the overall size of the business of a covered entity with respect to the number of its employees; the number, type and location of its facilities; and

(D) the type of operation or operations of the covered entity, including the composition, structure, and functions of the workforce of such entity; the geographic separateness, administrative or fiscal relationship of the facility or facilities in question to the covered entity. . . .

§ 12182. Prohibition of discrimination by public accommodations

(a) General rule. No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation.

(b) Construction. (1) General prohibition.

(A) Activities. (i) Denial of participation. It shall be discriminatory to subject an individual or class of individuals on the basis of a disability or disabilities or such individual or class, directly, or through contractual, licensing, or other arrangements, to a denial of the opportunity of the individual or class to participate in or benefit from the goods, services, facilities, privileges, advantages, or accommodations of an entity.

(ii) Participation in unequal benefit. It shall be discriminatory to afford an individual or class of individuals, on the basis of a disability or disabilities of such individual or class, directly, or through contractual, licensing, or other arrangements with the opportunity to participate in or benefit from a good, service, facility, privilege, advantage, or accommodation that is not equal to that afforded to other individuals.

(iii) Separate benefit. It shall be discriminatory to provide an individual or class of individuals, on the basis of a disability or disabilities of such individual or class, directly, or through contractual, licensing, or other arrangements with a good, service, facility, privilege, advantage, or accommodation that is different or separate from that provided to other individuals, unless such action is necessary to provide the individual or class of individuals with a good, service, facility, privilege, advantage, or accommodation, or other opportunity that is as effective as that provided to others.

(iv) Individual or class of individuals. For purposes of clauses (i) and (iii) of this subparagraph, the term "individual or class of individuals" refers to the clients or customers of the covered public accommodation that enters into the contractual, licensing, or other arrangement.

(B) Integrated settings. Goods, services, facilities, privileges, advantages,and accommodations shall be afforded to an individual with a disability in the most integrated setting appropriate to the needs of the individual.

(C) Opportunity to participate. Notwithstanding the existence of separate or different programs or activities provided in accordance with this section, an individual with a disability shall not be denied the opportunity to participate in such programs or activities that are not separate or different.

(D) Administrative methods. And individual or entity shall not, directly or through contractual or other arrangements, utilize standards or criteria or methods of administration --

(i) that have the effect of discriminating on the basis of disability; or

(ii) that perpetuate the discrimination of others who are subject to common administrative control.

(E) Association. It shall be discriminatory to exclude or otherwise deny equal goods, services, facilities, privileges, advantages, accommodations, or other opportunities to an individual or entity because of the known disability of an individual with whom the individual or entity is known to have a relationship or association.

(2) Specific prohibitions. (A) Discrimination. For purposes of subsection (a), discrimination includes --

(i) the imposition of application of eligibility criteria that screen out or tend to screen out an individual with a disability or any class of individuals with disabilities from fully and equally enjoying any goods, services, facilities, privileges, advantages, or accommodations, unless such criteria can be shown to be necessary for the provision of the goods, services, facilities, privileges, advantages, or accommodations being offered;

(ii) a failure to make reasonable modifications in policies, practices, or procedures, when such modifications are necessary to afford such goods, services, facilities, privileges, advantages, or accommodations to individuals with disabilities, unless the entity can demonstrate that making such modifications would fundamentally alter the nature of such goods, services, facilities, privileges, advantages, or accommodations;

(iii) a failure to take such steps as may be necessary to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently than other individuals because of the absence of auxiliary aids and services, unless the entity can demonstrate that taking such steps would fundamentally alter the nature of the good, service, facility, privilege, advantage, or accommodation being offered or would result in an undue burden;

(iv) a failure to remove architectural barriers, and communication barriers that are structural in nature, in existing facilities, and transportation barriers in existing vehicles and rail passenger cars used by an establishment for transporting individuals (not including barriers that can only be removed through the retrofitting of vehicles or rail passenger cars by the installation of a hydraulic or other lift), where such removal is readily achievable; and

(v) where an entity can demonstrate that the removal of a barrier under clause (iv) is not readily achievable, a failure to make such goods, services, facilities, privileges, advantages, or accommodations available through alternative methods if such methods are readily achievable.

. . .

(3) Specific construction. Nothing in this title shall require an entity to permit an individual to participate in or benefit from the goods, services, facilities, privileges, advantages and accommodations of such entity where such individual poses a direct threat to the health or safety of others. The term "direct threat" means a significant risk to the health or safety of others that cannot be eliminated by a modification of policies, practices, or procedures or by the provision of auxiliary aids or services.

(July 26, 1990, P.L. 101-336, Title II, § 302, 104 Stat. 355.). . . .

§ 12188. Enforcement

(a) In general. (1) Availability of remedies and procedures. The remedies and procedures set forth in section 204(a) of the Civil Rights Act of 1964 (42 U.S.C. 2000a-3(a)) are the remedies and procedures this title provides to any person who is being subjected to discrimination on the basis of disability in violation of this title, or who has reasonable grounds for believing that such person is about to be subjected to discrimination in violation of section 303 [42 USCS § 12183]. Nothing in this section shall require a person with a disability to engage in a futile gesture if such person has actual notice that a person or organization covered by this title does not intend to comply with its provisions.

(2) Injunctive relief. In the case of violations of sections 302(b)(2)(A)(iv) and section 303(a) [42 USCS §§ 12182(b)(2)(A)(iv), 12183(a)], injunctive relief shall include an order to alter facilities to make such facilities readily accessible to and usable by individuals with disabilities to the extent required by this title. Where appropriate, injunctive relief shall also include requiring the provision of an auxiliary aid or service, modification of a policy, or provision of an auxiliary aid or service, modification of a policy, or provision of alternative methods, to the extent required by this title.

(b) Enforcement by the Attorney General. (1) Denial of rights. (A) Duty to investigate.

(i) In general. The Attorney General shall investigate alleged violations of this title, and shall undertake periodic reviews of compliance of covered entities under this title.

(ii) Attorney General certification. On the application of a State or local government, the Attorney General may, in consultation with the Architectural and Transportation Barriers Compliance Board, and after prior notice and a public hearing at which persons, including individuals with disabilities, are provided an opportunity to testify against such certification, certify that a State law or local building code or similar ordinance that establishes accessibility requirements meets or exceeds the minimum requirements of this Act for the accessibility and usability of covered facilities under this title. At any enforcement proceeding under this section, such certification by the Attorney General shall be rebuttable evidence that such State law or local ordinance does meet or exceed the minimum requirements of this Act.

(B) Potential violation. If the Attorney General has reasonable cause to believe that --

(i) any person or group of persons is engaged in a pattern or practice of discrimination under this title; or

(ii) any person or group of persons has been discriminated against under this title and such discrimination raises an issue of general public importance, the Attorney General may commence a civil action in any appropriate United States district court.

(2) Authority of Court. In a civil action under paragraph (1)(B), the court --

(A) may grant any equitable relief that such court considers to be appropriate, including, to the extent required by this title --

(i) granting temporary, preliminary, or permanent relief;

(ii) providing an auxiliary aid or service, modification of policy, practice, or procedure, or alternative method; and

(iii) making facilities readily accessible to and usable by individuals with disabilities;

(B) may award such other relief as the court considers to be appropriate, including monetary damages to persons aggrieved when requested by the Attorney General; and

(C) may, to vindicate the public interest, assess a civil penalty against the entity in an amount --

(i) not exceeding $50,000 for a first violation; and

(ii) not exceeding $100,000 for any subsequent violation.

(3) Single violation. For purposes of paragraph (2)(C), in determining whether a first or subsequent violation has occurred, a determination in a single action, by judgement or settlement, that the covered entity has engaged in more than one discriminatory act shall be counted as a single violation.

(4) Punitive damages. For purposes of subsection (b)(2)(B), the term "monetary damages" and "other such relief" does not include punitive damages.

(5) Judicial consideration. In a civil action under paragraph (1)(B), the court, when considering what amount of civil penalty, if any, is appropriate, shall give consideration to any good faith effort or attempt to comply with this Act by the entity. In evaluating good faith, the court shall consider, among other factors it deems relevant, whether the entity could have reasonably anticipated the need for an appropriate type of auxiliary aid needed to accommodate the unique needs of a particular individual with a disability.

(July 26, 1990, P.L. 101-336, Title III, § 308, 104 Stat. 363.). . . .

MISCELLANEOUS PROVISIONS

§ 12201. Construction

(a) In general. Except as otherwise provided in this Act, nothing in this Act shall be construed to apply a lesser standard than the standards applied under title V of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq.) or the regulations issued by Federal agencies pursuant to such title.

(b) Relationship to other laws. Nothing in this Act shall be construed to invalidate or limit the remedies, rights, and procedures of any Federal law or law of any State or political subdivision of any State or jurisdiction that provides greater or equal protection for the rights of individuals with disabilities than are afforded by this Act. Nothing in this Act shall be construed to preclude the prohibition of, or the imposition of restrictions, on smoking in places of employment covered by title I [42 USCS §§ 12111 et seq.] in transportation covered by title II or III [42 USCS §§ 12131 et seq. or 12181 et seq.], or in places of public accommodation covered by title III [42 USCS §§ 12181 et seq.]. . . .

(d) Accommodations and services. Nothing in this Act shall be construed to require an individual with a disability to accept an accommodation, aid, service, opportunity, or benefit which such individual chooses not to accept.

(July 26, 1990, P.L. 101-336, Title V, § 501, 104 Stat. 369.). . . .

§ 12202. State immunity.

A state shall not be immune under the eleventh amendment to the Constitution of the United States from an action in Federal or State court of competent jurisdiction for a violation of this Act. In any action against a State for a violation of the requirements of this Act, remedies (including remedies both at law and in equity) are available for such violation to the same extent as such remedies are available for

such violation in an action against any public or private entity other than a State.
(July 26, 1990, P.L. 101-336, Title V'§ 502, 104 Stat. 370.). . . .

§ 12211. Definitions

(a) Homosexuality and bisexuality. For purposes of the definition of "disability" in section 3(2), [42 USCS § 12102(2), homosexuality and bisexuality are not impairments and as such are not disabilities under this Act.
(b) Certain conditions. Under this Act, the term "disability" shall not include --

(1) transvestism, transsexualism, pedophilia, exhibitionism, voyeurism, gender identity disorders not resulting from physical impairments, or other sexual behavior disorders;
(2) compulsive gambling, kleptomania, or pyromania; or
(3) psychoactive substance use disorders resulting from current illegal use of drugs.

(July 26, 1990, P.L. 101-336, Title V, § 511, 104 Stat. 376.)

AIDS UPDATE

NACUA ANNUAL CONFERENCE

JUNE 26 - JUNE 29, 1988

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LEGAL UPDATE ON AIDS AND AIDS RELATED LITIGATION

I. AIDS Is A Handicap Protected By The Rehabilitation Act And State Anti-Discrimination Laws

There is little doubt that AIDS, AIDS Related Complexes (ARC), or positive HIV status (all hereinafter referred to as AIDS) meet the definition of a handicap under Section 504 of the Federal Rehabilitation Act, 29 USC 794. Section 706(7)(B) defines "Handicapped individual" to mean any person who "(i) has a physical impairment which substantially limits one or more of his major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment". In the only federal appellate court to consider the issue, *Chalk v. The United States District Court, Central District of California*, 832 F. 2d 1158 (9th Cir. 1987), the court held that AIDS was a handicap covered by the Rehabilitation Act and ordered a teacher with AIDS returned to the classroom. A similar decision concerning the status of AIDS as a handicap was reached in *Thomas v. Alascadero Unified School District, et al.*, 662 F. Supp. 376 (C.D. Cal. 1987) where the court ordered a five year old who was HIV positive admitted to school.

In *School Board of Nassau County, Florida v. Arline*, ____ US ____, 107 S.Ct. 1123, 94 L.Ed 2d 307, (1987), the Supreme Court held that tuberculosis, a communicable disease, was a handicap within the meaning of Section 504. Although the Supreme Court in *Arline* indicated in a footnote that it was specifically not deciding whether AIDS was a handicap covered by Section 504, the Court's logic and discussion virtually guaranteed that AIDS would be considered a handicap under Section 504. Even if there were a colorable dispute on this point remaining after *Arline*, it has been resolved by subsequent amendments to the Rehabilitation Act.

The Civil Rights Restoration Act of 1987 amended the Rehabilitation Act in an attempt to satisfy both liberal and conservative concerns about the application of *Arline* to an AIDS case. The amendments provide that a person with a contagious disease is protected under Section 504 if they do not pose a direct threat to the health or safety of others and they are able to perform the essential duties required.

Even prior to *Arline*, there were several state human relation commission decisions holding that AIDS was a handicap protected under State law. See California Fair Employment and Housing Commission, Case No. FEP 83-84/L1-031p/L-33676/87-04, CCH Emply. Prac. Rptr. #5047 (Feb. 5, 1987)(employee with AIDS dismissed by defense contractor awarded back pay); Dimucelli & Sons Funeral Home v. New York Commission on Human Rights, No. 19527/86, Sup. Ct. NY Co., IAS: Part 17; Shuttleworth v. Broward County Office of Budget and Management, (Florida) 54 USLW 2330 (Dec. 11, 1985).

II. Enrollment Decisions Involving AIDS

The only cases to date involving student exclusion from school have dealt with kindergarten and elementary school children with AIDS. In virtually all these cases, the courts have ultimately ordered students returned to a normal classroom setting. See Thomas v. Alascadero Unified School District, et al., supra; Ray v. School District of DeSoto County, 666 F. Supp. 1524 (M.D. Fla. 1987). In Ray, the Court did, however, restrict the three plaintiff boys' participation in contact sports. School officials have been ordered to admit a five year old child with AIDS, based on a finding that the possible risk to others was too remote. Phipps v. Saddleback Valley United School District, No. 174981, Orange County, Sup.Ct., Feb. 20, 1986. In addition, review of students with AIDS on a case by case basis prior to admission to elementary school has been found appropriate. District Twenty-seven v. Board of Education of City of New York, 502 NYS 2d 325 (Sup.Ct. 1986). In similar circumstances, it has been held to be a violation of Section 504 for schools to isolate children with a hepatitis B virus, which is transmitted in ways identical to the AIDS virus. New York Association for Retarded Children v. Carey, 612 Fed. 2d 644 (2d Cir. 1979).

There are no known cases discussing admission of students to a college or a university or to post-graduate professional schools such as medical, dental, or nursing schools. There would appear to be no basis for automatic exclusion of undergraduate or graduate students with AIDS. A student could be excluded if his health would not permit him to attend classes regularly. With respect to admission to medical, dental and nursing schools the legality of denying admission would undoubtedly turn on whether or not a student could engage in all required activities without any risk to patients or himself. See Southeastern Community College v. Davis, 442 US 397, 99 S.Ct. 2361 60 L.Ed 2d 980 (1979), where the Supreme Court held that a nursing school did not have to modify its program requirements to accommodate a deaf student who could not perform in an operating room. Naturally, there may be occasions in which a reasonable modification would be required if it did not affect the substantive requirements of a program.

III. Employment Decisions On The Basis Of AIDS

Courts and state human relations agencies have held that it is unlawful to fire an employee on the basis of a positive HIV status. See Chalk v. The United States District Court, Central District of California, supra; California Fair Employment and Housing Commission, supra; Shuttleworth v. Broward County, 54 USLW 2330 (Dec. 11, 1985).

Although not dealing directly with AIDS, there are a number of cases discussing handicapped employment issues that are relevant to dealing with employees with AIDS. First, it has been held that an employer cannot refuse to hire a handicapped individual on the basis of a risk of future injury unless the employer can show a reasonable liklihood of such an occurrence. E.E. Black, Ltd. v. Marshall, 497 F. Supp. 1088 (D. Hawaii 1980)(apprentice carpenter with cogenital back anomaly). One cannot fire an employee because of the fear of risk to the employee without objective evidence of substantial harm to that employee or others. Hayes v. Shelby Memorial Hospital, 726 F. 2d 1543 (11th Cir. 1984) (x-ray technician fired when learned she was pregnant).

It has also been held that the possible future inability of an individual to perform their duties is not a basis for rejecting a job applicant or firing a current employee. Chrysler Outboard Corporation v. DILHR, 14 Fair Employment Practice Case 344 (BNA)(Wis.Cir.Ct. 1976).

An employer cannot refuse to hire someone because their customers may prefer to deal with an employee without a disability. Customer preference is not a permissible defense in the area of anti-discrimination laws. Diaz v. Pan American World Airways, 442 F. 2d 385 (5th Cir.), cert. denied 404 US 950 (1971).

However, an employer is not required to make significant job restructuring in order to permit a handicapped individual to work or to continue working. The person must be able to perform their duties properly in spite of their handicap. Arline, supra; Southeastern Community College v. Davis, 422 US 397, 406 (1979).

IV. The Right Of Privacy

There are rights of privacy of different natures and degrees established under different legal theories: the Fourth Amendment creates a right of privacy to have an abortion, Roe v. Wade, 410 US 113, 152-153, 93 S.Ct. 705, 726-727, 35 LEd. 2d 147 (1973); right to privacy of student records is established pursuant to federal statute (Buckley Amendment), 20 USCA Section 1232, et seq.; physician patient privilege is solely a creature of state law, GMC v. Director of National Institute, 636 F. 2d. 163 (6th Cir. 1980); and state common law has created a right to privacy. See Restatement of Tort Second, Section 652 A (1977).

The elements of a violation of a common law right of privacy claim are as follows: (1) public disclosure, (2) of private facts, (3) orally or in writing, and (4) consisting of information which is offensive and objectionable to reasonable persons of ordinary sensibilities. See Prosser on Torts, 3d Ed. (1964).

There is an important defense to a claim of violation of a right to privacy. It is a qualified or conditional privilege which attaches where comments are made fairly in the conduct of one's public or private duties. See Restatement of Tort, Section 593 through 612. Most cases will be decided upon whether a qualified privilege has been abused.

There is little doubt that the disclosure of an employee's or student's medical status to persons who have no reason to know will be held to be a violation of their right to privacy. In Bratt v. IBM, 467 NE 2d 126 (Mass. 1984), the court held that the disclosure of an employee's medical status would state a cause of action for violation of that employee's right to privacy. In Cronan v. New England Telephone Co., (Sup. Ct. Civ. Act. No. 80332, Suffex, Mass.) the court denied the defendants' motion to dismiss a claim for breach of privacy where an employee with AIDS disclosed that fact to his supervisor and the supervisor disclosed that information to the employee's co-workers who threatened to lynch him if he ever returned to work.

In addition, the mandatory AIDS testing of employees at a state facility for the mentally retarded has been held to be a violation of the employees' right to privacy under the 4th Amendment. See Glover v. Eastern Nebraska Community Office of Retardation, (DCNEB. CV No. 87-0-830, 3/29/88). However, an injunction was denied to State Department employees trying to enjoin the HIV testing of foreign service workers. Local 1812 v. U.S. State Department, (CIV No. 87-0121) USDC, DDC (Judge Gesell).

There is little doubt that the public disclosure of private medical facts, particularly something as sensitive as the acquisition of the AIDS virus, would be actionable (See Banks v. King Feature Syndicates, 30 F. Sup. 352 (Southern District of N.Y. 1939) (Making public x-rays of woman's pelvic region held to be actionable as a breach of privacy).

V. Housing Issues.

To the extent that any state or federal law prohibits discrimination against the handicapped in housing, AIDS has been treated similarly. In People v. 49 W. 12th Street Tenants Corporation, (Supreme Ct., New York County, Oct. 14, 1983), the court enjoined a cooperative apartment house from refusing to rent office space to a doctor who treated AIDS patients.

VI. Right To Test For AIDS Or Obtain Information From The Student Concerning AIDS Status.

The courts have long permitted schools to establish health standards and measures as a condition of school attendance, Board of Education of Mountain Lakes v. Maas, 152 A.2d 394, 408 (N.J. 1959), and to require pre-admission physical examinations, Streitch v. Board of Education, 147 NW 779 (SD. 1914). The courts for a long time have denied attendance to persons with communicable diseases that would pose a threat to others. Breese v. Smith, 501 P 2d 159, 170 (fn.44)(Alaska 1972); Mosley v. Dallas, 17 SW 2d 36 (Texas Civil Appeals 1929). The courts have also permitted schools to require students to have vaccines. Syska v. Montgomery County Board of Education, 415 A.2d 301, 45 Md App 626, appeal dismissed 101 S.Ct. 1475, 450 U.S. 961, 67 L.Ed 2d 610 (1980); Itz v. Penick, 493 SW 2d 506 (Texas, 1973); In Re Clark, 185 NE 2d 128 (Ohio 1962).

The Congress has ordered the government to test immigrants and illegal aliens for the AIDS virus and to exclude those persons who test positive. This law became effective December 1987.

It would appear that colleges are entitled to require disclosure on a pre-admission or post-admission physical of the students' HIV status based on analogous case law. However, California and Wisconsin have passed laws restricting the right to test for HIV status and Florida has passed a law restricting the use of serologic tests (another name for blood tests for AIDS). Of course, there is a difference between the right to obtain information and being able to use that information to exclude a student from a school or school programs.

AIDS ISSUES AT THE RESIDENTAL COLLEGE

There are numerous legal issues which the college and university campus will face in trying to deal with AIDS. There is no simple or easy answer to all of these concerns, but most are best analyzed as (i) handicap and (ii) privacy and confidentiality issues.

I. Admissions

At the typical undergraduate college or graduate school program, there is no basis for excluding a student from the program on the basis of a positive HIV status. A student could probably be excluded if his health would raise serious obstacles to regular class attendance.

However, there is a more difficult question to be confronted by medical, dental and nursing schools. If the prospective student can complete the program without presenting a risk to patients or himself, it will be difficult to justify denying admission, even though the prospective student is likely to have a shortened career. Similarly, there is no basis for dismissing a student from such a health care program if they acquire AIDS while in the program, if completion of the program poses no health risk to patients or themselves.

II. REQUIRING HEALTH REPORTS AND TESTING OF STUDENTS

Most schools require some form of health examination or report from new students. There is no reason why such a report cannot request information on a student's immuno deficiency status, including specifically the student's HIV status. This information may be useful and necessary in protecting a student from epidemics of chickenpox and the like which can be particularly hazardous to an AIDS patient. However, as noted above, it would normally be inappropriate to use a student's HIV status to prohibit the student from being admitted to the school or program. With respect to students entering the health care professions, each institution will have to make a judgment as to whether the student can safely for himself and patients complete the medical, dental or nursing school program. At the present time, the Center for Disease Control has not issued any guidelines or regulations indicating that it would be improper for any infected health care worker to carry out their duties provided appropriate precautions are taken.

For the reasons referred to immediately above, there is no basis for routine, mandatory AIDS testing of all students.

III. RESTRICTIONS ON ACTIVITIES

There is no basis for automatically excluding students with AIDS from any university activity. In fact, there would appear to be no basis at all for excluding a student with AIDS from any activity with the possible exception of some contact sports. The American Council on American College Health Association has recommended that students with AIDS be permitted to engage in athletic competition so long as they are able to do so. However, there has been one case in which a federal court restricted students with AIDS from competing in contact sports. Ray v. School District of DeSoto County, 666 F.Supp. 1524 (M.D.Fla. 1987).

IV. HOUSING LIMITATIONS

There is no basis for automatically excluding AIDS students from the university housing. There may be occasions when a student with full-blown AIDS should not be permitted in the university dormitories in order to protect himself from a chickenpox like epidemic within the dormitory setting.

There is no basis for notifying roommates or fellow students in the dormitory about another student's HIV status. However, it is essential that students be educated about using other students razors or toothbrushes, since the American College Health Association recommends that students not share such utensils.

V. NOTIFICATION TO ADMINISTRATORS AND FACUTLY OF STUDENT HIV STATUS

Extreme care must be exercised to limit the number of people who know about students' HIV status. It would appear that appropriate administrators have a right to know about student HIV status in order to assure protection of the student's own health in the housing situation.

VI. MEDICAL CARE AND MEDICAL RECORDS

It is important that the medical history and medical records of the institution be maintained on a confidential basis to the greatest extent possible. Institutions that provide for medical and psychological care of their students should have personnel trained to provide advice and support for students with AIDS.

Persons with immuno deficiencies should be excused from institutional requirements for certain vaccinations, especially measles and rubella, since these vaccinations may lead to serious consequences in people with poorly functioning immune systems.

The university's greatest threat of liability will be for the unnecessary disclosure of HIV status.

VII. EDUCATION

The university's greatest responsibility may be to educate its students to the risk of AIDS and to the manner of transmission and to the precautions necessary. The education program should include information on the mode of transmission of the virus, the steps necessary to prevent the transmission of the virus, particularly as it relates to sexual activity and use of needles. Persons should be advised as to the protections they should take if they are HIV positive in terms of their sexual relationships with others, as well as their donating of blood and other body tissues and organs.

Residence hall staff, both students and employees, should be advised of the facts about AIDS and its transmission and appropriate behavior so that they can aid and inform students.

VIII. EDUCATION OF EMPLOYEES

There are employees for whom special instructions should be provided in accordance with CDC guidelines. These include food service workers, athletic trainers, security personnel, custodial staff, health care workers, and first aid squads.

IX. REPORTING REQUIREMENTS

Each state has various reporting requirements for contagious diseases and CDC requires that AIDS be reported to it. The medical personnel at the university should be fully familiar with their obligations under state and federal law.

X. DEVELOPMENT OF POLICY

Each institution should develop a general policy for handling students and employees with AIDS. In most instances, the policy should provide that there is no basis for treating students or employees with AIDS any differently than others. However, it is important that each institution verify its policy with medical experts in the field. A general policy which provides room for flexibility based on individual circumstances is probably more appropriate than a detailed policy which attempts to resolve all possible situations before the facts concerning individual student and employee situations are known.

CONCLUSION

At the present time, there appears to be little or no basis for treating undergraduate and graduate students with AIDS any differently than other students in virtually all areas of student life including admissions, student activities and housing. However, special care should be taken in examining the issue of students in health care fields and contact sports, and special measures should be taken to protect students in residential housing from the outbreak of other epidemics. Educational programs should be instituted to advise the students of their risks and the nature of activity which will contribute to that risk. Students should be informed that they should not presume on the basis of anyone's physical appearance or otherwise that they are HIV negative and that much as health care workers have to adopt the precaution of assuming that all patients are HIV positive, a similar perspective needs to be taken by students.

AIDS: A CONTINUING SAGA

NACUA Annual Conference
June 26 - June 29, 1988

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New Haven, Connecticut

UPDATE ON LEGAL ISSUES RELATED TO AIDS FOR MEDICAL CENTERS

I. Recommendations of the Centers for Disease Control

The Centers for Disease Control of the U.S. Public Health Services (hereinafter "CDC") periodically issues recommendations concerning AIDS, AIDS Related Syndrome (hereinafter "ARC"), and Human Immunodeficiency Disease (hereinafter "HIV"). These recommendations are based on current medical knowledge of the transmissibility of HIV and contain recommendations on various practices within a health care institution. Since the reasonableness of conduct or the appropriateness of a decision will depend in large measure on consistency with current medical knowledge and prevailing standards at the time of the action or decision, it is imperative that CDC recommendations be reviewed on a continual basis and that policies, protocols, and decisions be made to the extent possible consistent with these recommendations.

The most recent CDC guidelines on transmission were issued on August 21, 1987. U.S. Department of Health Services, Public Health Service, Centers for Disease Control, Recommendations for Prevention of HIV Transmission in Health-Care Settings, 36 Morbidity and Mortality Weekly Report, No. 2S (August 21, 1987). The current guidelines recommend against wholesale testing of patients for the presence of the virus and recommend instead that "universal blood and body-fluid precautions" be used in the care of all patients. The guidelines contain recommendations on obtaining consent for patient testing, testing of health-care workers, and management of exposures.

Notable shifts in the CDC recommendations have already occurred. For example, previous guidelines did not recognize any legitimate interest of a health care institution in serologic testing of patients in high risk exposure areas. The August 21, 1987 recommendations, however, recognize the possibility that it may be appropriate to require serologic testing for patients in settings in which exposure of workers to large amounts of blood is anticipated such as major operative settings and critical care units. This is a significant change which will affect policies established by medical centers on testing. Similar changes in the future will require new analyses of the appropriateness and legality of policies and practices within a medical center.

II. Patient Care Issues

A. Duty to Treat.

Although the Supreme Court has not decided the issue, other federal courts have ruled that hospitals which receive Medicare funds are subject to Section 504 of the Rehabilitation Act of 1973, 29 U.S.C.A. §794. Bowen v. American Hospital Association, et. al., 476 U.S. 610 (1986) (issue whether provision of health care to infants in hospitals receiving Medicare or Medicaid covered by §504 not reviewed); see, e.g., U.S. v. Baylor Medical Center, 736 F.2d 1039 (5th Cir. 1984), cert. denied, 469 U.S. 1189 (1985). The Act provides that no otherwise qualified handicapped person may "solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." 29 U.S.C.A. §794; 45 C.F.R. §84.1 et seq. (1987).

Following the decision of the U.S. Supreme Court in School Board of Nassau County, Florida v. Arline, _____ U.S. ______, 107 S.Ct. 1123, 94 L.Ed 2d 307 (1987), there is no real doubt that individuals with ARC or AIDS will be found handicapped under Section 504. An HIV seropositive individual will also probably be deemed handicapped within the meaning of the statute as an individual "regarded as having...an impairment." 29 U.S.C.A. 3706(7)(B)

Various state statutes and local ordinances concerning discrimination may also impose an obligation on a medical center to admit and treat an individual seropositive for HIV. Some of these statutes track the requirements of Section 504 and others differ in application.

Many hospitals received federal funds under the Hill-Burton Act providing federal financial assistance for construction and modernization. Receipt of these funds obligated the recipient institution to provide certain free community services conditioned solely on the individual's need for the service and the availability of the needed service in the facility. 42 C.F.R. §124.603(a)(1) (1987).

The holding of an exemption from federal income taxation under Section 501(c)(3) of the Internal Revenue Code of 1986 as a charitable entity arguably could be jeopardized by a refusal to admit or treat an individual solely on the basis of seropositivity.

The common law of many states requires institutions with emergency rooms to provide services to any individual with a critical medical problem. *See e.g.*, *Wilmington General Hospital v. Manlove*, 174 A.2d 135 (Del. 1961). A failure to treat in the emergency room may result in liability for damages resulting from the delay in treatment. State statutes impose in some jurisdictions obligations in emergencies, and hospitals accredited by the JCAHO are required to assess, and, as indicated, either treat or refer. Joint Commission on Accreditation of Healthcare Organizations, *Accreditation Manual for Hospitals*, ER 1.3 (1988). The emergency rooms of hospitals receiving Medicare are also subject to the Medicare "anti-dumping" statute, which imposes examination and treatment obligations on an emergency room for any individual who comes to the emergency room requesting examination or treatment for a medical condition. 42 U.S.C. §1395dd (Supp. 1987).

A medical facility which undertakes to treat an individual may be liable for damages to the individual if it terminates treatment without making or attempting to make arrangements for continuation of necessary treatment by another facility. Such action constitutes "abandonment" of the patient.

B. Testing Patients for HIV Seropositivity.

Informed consent is generally required prior to medical or surgical procedures or tests. Failure to obtain informed consent may constitute the common law intentional tort of battery which is defined to be unconsented-to harmful or offensive contact with a person. *See*, *e.g.*, Restatement (Second) of Torts 313 (1965).

At present, the CDC, the American Medical Association, and the American Hospital Association endorse the requirement of informed consent prior to HIV testing. *CDC Recommendations, supra*; American Medical Association Board of Trustees Report, "Prevention and Control of Acquired Immuno-deficiency Syndrome", 258 *Journal of the American Medical Association* 2097 (October 16, 1987); American Hospital Association, *AIDS/HIV Infection Policy: Ensuring a Safe Hospital Environment, Report and Recommendations of the Special Committee on AIDS/HIV Infection Policy* (November, 1987). This consensus has evolved because of the serious social and economic consequences to the patient if the results of the test are positive and are disclosed to other individuals.

Some states and local governmental units have passed legislation providing that an individual's blood may not be screened for HIV without the individual's informed consent, and many other states and units have proposed legislation. For a summary of state legislative activity, see Hilary E. Lewis, "Acquired Immunodeficiency Syndrome: State Legislative Activity", 258 JAMA 2410 (November 6, 1987).

To grant an effective consent, a patient generally must be fully informed as to the nature of the procedure, risks, benefits, and alternatives. In the absence of a specific state statute defining the necessary elements of an informed consent to screening, CDC guidelines and the American Hospital Association's sample informed consent form should be reviewed. American Hospital Association, AIDS and the Law: Responding to the Special Concerns of Hospitals, Prepared by the AIDS Task Group of the American Academy of Hospital Attorneys of AHA 83 (Spring, 1988). Generally, the patient should be informed that he is consenting to tests for the presence of the virus which is the probable cause of AIDS, that tests are not 100% accurate and that the tests produce both false-positive and false-negative results, that the presence of antibodies means that the person is infected with the virus but does not mean that he will develop AIDS, and that if the test is positive he should have follow-up counselling. Further, because of confidentiality requirements discussed below, the patient should be informed that the information will not be disclosed to others without the patient's consent except to the extent disclosure is required by law or to the extent disclosure is necessary to secure the safety of other individuals.

There are no known judicial decisions concerning failure to obtain informed consent prior to testing an individual's blood for seropositivity. Suits have been filed seeking relief, including three recently filed in Pennsylvania. Doe v. Wills Eye Hospital, No. 5248 and Doe v. Dyer/Goode, No. 5249, Philadelphia Court of Common Pleas, both filed on March 30, 1988; and Doe v. Conly, No. 88-0486 (M.D. Pa. filed March 31, 1987). See also Doe v. Shasta County General Hospital, No. 92336 (Shasta County Super Ct. Cal. filed September 9, 1987).

C. Negligent Treatment.

At present, there are no known judicial decisions and no apparent pending suits concerning negligent treatment of an individual for HIV seropositivity, ARC, or AIDS.

Potential causes of action in this area include failure to counsel, false diagnosis of seropositivity, failure to diagnose seropositivity, and failure to recommend testing for seropositivity. See Shepard v. Redford Community Hospital, No. 82538 (Mich. Ct. App. 1986) (claim of liability for wrongful death of individual from meningitis following failure to diagnose meningitis in another family member states a cause of action); Hofmann v. Blackmon, 241 So. 2d 752 (1970), cert. denied, 245 So. 2d 257 (Fla. 1971) (liability imposed for negligent failure to diagnose TB resulting in infection of another family member).

At present, the AMA recommends that physicians encourage voluntary testing for individuals in certain high-risk groups, and the CDC acknowledges that testing may be appropriate for certain identified high-risk groups.

D. Duty to Non-Infected Patients.

Hospitals generally have a duty to their patients to provide care in a safe environment. It is possible (although extremely unlikely) that a non-infected patient could be exposed to HIV by another patient or by an employee or physician. Whether liability will result will depend in large measure on whether the patient's care was rendered in accordance with existing CDC guidelines on transmissibility of the infection. These guidelines as applied to infected employees and infected physicians will be discussed subsequently.

E. Confidentiality.

The requirement of maintenance of confidentiality of patient information has many sources, and breach of confidentiality requirements may subject the institution to liability.

Some states have enacted legislation specific to confidentiality of information concerning seropositivity. See Lewis, supra. Many states have general statutory privileges which impose confidentiality requirements on health care institutions and physicians. Additionally, accreditation requirements of the JCAHO and the AHA's Patients Bill of Rights mandate the maintenance of confidentiality. Further, ethical obligations pursuant to the AMA's Principles of Ethics also exist.

A common law right to privacy also gives protection to certain sensitive personal information. Restatement (Second) of Torts §652D (1977).

Caution must therefore be exercised in recording, maintaining, and disseminating any information concerning the seropositivity of an individual.

Both JCAHO and Medicare require the results of the test to be recorded in the individual patient's formal medical record; this requirement may also be imposed by a state's Public Health Code or other licensing or statutory provision. Access within the institution to the record and to the information concerning seropositivity should be restricted to those who have a reasonable need to know the information.

Information from a patient's medical record should not be disclosed to organizations, institutions, or individuals outside the medical center without the consent of the patient except as may otherwise be required by law (e.g., subpoena or mandatory reporting requirements) or permitted by law.

Federal law requires that laboratories (1) which are Medicare providers, (2) which test specimens for Medicaid recipients, or (3) which test specimens in interstate commerce must maintain the names and other identification of individuals undergoing testing for the presence of HIV. On March 31, 1988, the Department of Health and Human Services issued a proposed rule which would in some circumstances permit laboratories to use alternative identifiers in place of the patient's name. Fed. Reg. 10404 _Medicare, Medicaid, and Clinical Laboratories Improvement Act (CLIA) Patient Confidentiality Rules_ (proposed March 31, 1988). The stated purpose of the proposed changes in the regulations is to permit laboratories to participate in anonymous testing programs for individuals other than those covered by Medicare or Medicaid.

A hospital may be subject to liability for slander or libel _per se_ if it falsely publishes or disseminates information that an individual has AIDS or ARC and perhaps will be liable for falsely publishing information that an individual is HIV positive. The information presumably is tantamount to stating that an individual is suffering from a "loathsome disease" thereby bringing the statement within _per se_ rules. Restatement (Second) of Torts §572 (1977).

F. Reports to Public Health Authorities.

Individual state statutes, regulations, and/or administrative orders impose mandatory duties on healthcare institutions to report certain diagnoses. In some states, only a diagnosis of AIDS is required to be reported, but some states impose an obligation to report a seropositive HIV test result. Each institution should be familiar with its requirements for reports to the public health authorities.

In some states, the reporting statutes mandate that public health authorities follow-up each report and notify individuals who may have been exposed by the seropositive individual. In most states, however, there is no official follow-up notification program in existence.

G. Duty to Disclose Individual's Seropositivity To Third Parties.

The fact that a patient has tested positive for HIV or has ARC or AIDS is confidential patient information which should generally be kept private and not disclosed to third parties.

Confidentiality requirements must be balanced against, however, obligations owed to other individuals who may be endangered by the patient. Although at present there is no known case alleging that a hospital or physician is liable for failure to disclose to a third party the seropositivity of a patient, it is predictable that such claims will be made. Existing case law supports the imposition of a duty on a physician to take steps to warn a third party of the possibility of infection of tuberculosis and venereal disease. The principles stated in the well-known Tarasoff case could support the existence of a duty to third parties, particularly in cases in which the provider has reason to believe that the patient will not notify the other individual. Tarasoff v. Regents of the University of California, 131 Cal. Rptr. 14, 551 P.2d 334 (Cal. 1976).

In states with mandatory HIV seropositivity reporting requirements to public health authorities, the provider probably does not have an independent obligation to report to the third party. This is particularly true in states with follow-up investigation and notification programs.

Decisions in individual cases whether notification of the infection should be given to a third party without the patient's consent should be based on consideration of common law principles, the report and recommendations of the AMA's Council on Ethical and Judicial Affairs, and relevant state statutes which may limit or permit such disclosure. American Medical Association, Report of the Council of Ethical and Judicial Affairs: Ethical Issues Involved in the Growing AIDS Crisis (1987).

Since the infection is not transmitted through casual contact, only certain classes of third parties might be entitled to a warning or notice of seropositivity; these classes include individuals in a significant intimate relationship with the patient (e.g., spouse or lover) and individuals who may have been exposed in rendering emergency aid to the patient including emergency medical assistance personnel and police. Legislation has been proposed in some states permitting disclosure of this information to emergency medical personnel and public safety officers.

H. Blood Transfusions, Organ Transplants, and Artificial Insemination.

Patients who receive transfusions of blood or blood products, organ transplants, or artificial insemination can contract the virus if the donor was infected. Prudence therefore dictates that the donor or donated specimens be screened for the presence of HIV before use of the donated body parts or products. AMA Board of Trustees Report, *supra*. at 2100-2101. Recipients of donated body parts or products should also be informed that a possibility of transmission of the virus is present since existing testing is not adequate to identify donors only recently infected with the virus. Such a practice would be consistent with the recommendations of the American Association of Blood Banks.

To date, courts have generally been rejecting claims by individuals infected with HIV through blood transfusions or blood products. These cases have involved application of the "blood shield" laws and consideration whether the screening and disclosure which occurred at the time were consistent with existing medical practice and knowledge. *See*, *e.g.*, *Shelby v. Gulf Coast Regional Blood Center*, No. H-87-901 (S.D. Tex. March 17, 1988); *McKee vs. Miles Laboratories, Inc.*, Nos. 85-57 and 86-248 (E.D. Ky. December 22, 1987). A report of another recent case, however indicates that the blood shield laws may be vulnerable. *Doe v. Miles Laboratories, Inc.* No. R-86-2548 (D. Md. December 14, 1987).

III. Employment and Medical Staff Issues

Although the principles governing conduct are generally similar for employees, independent practitioners with privileges on the staff, and tenured individuals, some differences in legal and contractual relationships will exist. Each institution must therefore identify differences in its legal or contractual obligations.

A. Refusal to Treat.

Except in a few limited situations, there is no medical justification reasonably supporting an employee's refusal to treat a seropositive patient, and a continued refusal by an employee may constitute grounds for termination of employment. Stepp v. Review Board of the Indiana Employment Security Division, AIDS Policy and the Law (BNA) April 20, 1988 (Ind. Ct. App. April 4, 1988). Such termination would be required to be consistent with state laws governing discharge, any relevant bargaining agreement which protects the employee, and any individual employment contract.

Imposition of a requirement by the employer that employees treat seropositive individuals is consistent with numerous legal obligations of the hospital. These obligations include the obligation to provide care to its patients, the obligation to provide nondiscriminatory services to patients, and the obligation, if applicable, under Hill-Burton.

In the absence of medical staff bylaws or formal hospital policies to the contrary, a non-employee physician generally has the legal right to refuse to accept a patient. Once a physician-patient relationship has been established, however, an individual physician may not terminate the relationship without insuring that the patient will receive acceptable treatment from another physician.

In its 1987 report, the Council on Ethical and Judicial Affairs of the AMA ruled that a physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive. This ruling may restrict the legal ability of an independent practitioner to refuse to treat seropositive individuals in states in which the licensing statutes require a physician to comply with the AMA's Principles of Ethics or in institutions whose medical staff bylaws require physicians similarly to comply with ethical obligations.

B. Employees or Physicians Seropositive for HIV or with AIDS.

The Rehabilitation Act of 1973 and state anti-discrimination provisions apply to handicapped employees as well as patients. Employees seropositive for HIV who do not have AIDS should be considered handicapped and protected under Section 504 of the Rehabilitation Act following recent amendments to the Act. As with patients, the applicability of anti-discrimination

86

state statutes and ordinances is dependent upon the specific language of the relevant provision.

Decisions concerning restrictions on the activities of infected employees or physicians should be made based on an evaluation of the risk posed to others of transmissibility of the infection. This evaluation should be made consistently with the requirements of Section 504, the CDC guidelines, and the AMA's code of ethics.

Restrictions on an employee's activities or termination of employment when the restrictions/termination are not considered necessary or appropriate by the CDC guidelines to protect other individuals will in all probability subject the institution to liability under Section 504.

If the employer is aware of the employee's seropositivity, the employer has an obligation to monitor the employee's condition and should, consistent with its obligations to its patients and other employees, impose restriction or precautions only as necessary to prevent transmission of the infection. Chalk v. The United States District Court, Central District of California, 832 F.2d 1158 (9th Cir. 1987).

Two known lawsuits have been filed concerning disputes between seropositive physicians and hospitals/medical centers. These cases, which were filed against Johns Hopkins and County of Cook, Illinois, were settled, and there are therefore no judicial decisions available to give guidance in this area. The consent decree in Doe v. County of Cook, Illinois, No. 87 C 6888 (N.D. Ill. February 24, 1988) is, however, a matter of public record and may be obtained.

C. Testing of Employees for HIV.

State statutes and common law control whether an employer may test prospective employees or existing employees for the presence of HIV. No known federal law specifically prohibits such testing, although federal labor relations statutes will have an effect to the extent that an institution has collective bargains with unions.

In the absence of a state statute to the contrary or a collective bargaining agreement, it appears legally possible to adopt a policy which requires mandatory testing of employees in certain high risk areas. Such a policy is contemplated by the most recent CDC guidelines.

If an institution adopts a policy requiring testing of employees under certain circumstances, the institution must also consider consent, confidentiality, and monitoring of the activities of an infected individual.

As with patients, information within the possession of a medical center concerning a worker's HIV positivity should be held in strictest confidence. Disclosure of such information may be governed by state statutes on the privacy of employment information and by common law principles on invasion of privacy.

D. Duty to Provide a Safe Working Environment.

Employers have an obligation to exercise reasonable care in providing a safe environment to their employees. Occupational Safety and Health Act, 29 U.S.C.A. §654 (1985).

OSHA has recently begun an enforcement program to insure that health care employers are providing appropriate safeguards for healthcare workers who may be exposed to infection. Certain safety standards have been published in a Joint Advisory Notice issued by the Departments of Labor and Health and Human Services addressed to protection against occupational exposure to the hepatitis B virus and HIV. Fed. Reg. 41818 (October 30, 1987). Violation of the safety standards set forth in the notice may result in the imposition of fines by OSHA and will also be relevant to an independent determination that an employer had breached its duty to its employees in this area.

The CDC guidelines also contain recommendations to insure employee safety. Non-compliance with the CDC guidelines may be *prima facie* evidence of negligence or breach of duty.

E. Worker's Compensation.

An employee who contracts HIV as a result of his employment is generally covered by worker's compensation statutes. Additionally, an already infected employee whose condition is aggravated or worsened by a job-related event such as exposure to another infection should also be subject to worker's compensation statutes.

F. National Labor Relations Act.

As noted previously, issues of mandatory testing, work conditions, and restrictions on employment activities are proper subjects of collective bargaining. In the development of any policy or procedure or in the making of any decision for an individual employee, the institution should be certain to ensure consistency with collective bargaining agreements, if any.

G. Tenure.

An institution's ability to make decisions concerning an individual's right to continue to render patient care may be affected by the institution's tenure procedures and policies. Caution should be exercised that any policies concerning HIV seropositivity or AIDS are consistent with any applicable requirements.

H. Medical Staff Bylaws.

The privileges and activities of physicians and in some cases other allied health professionals within a health care institution are generally governed in large part by the medical staff bylaws of the institution. The hospital's bylaws should be reviewed to ensure that they accommodate decision making and potential restrictions on practice activities deemed reasonable and necessary because of seropositivity.

Recommended Resources

American Hospital Association, AIDS and the Law: Responding to the Special Concerns of Hospitals, Prepared by the AIDS Task Group of the American Academy of Hospital Attorneys of the AHA (Spring 1988). This is available from the AHA, 840 North Lake Shore Drive, Chicago, IL 60611.

AIDS Policy and Law (Buraff Publications, Inc./BNA). This is a biweekly newsletter reporting on litigation, legislation, and regulation; the address is Buraff Publications, Inc., 2445 M St. N.W., Suite 275, Washington, D.C. 20037.

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ANNUAL UPDATE OF AIDS-RELATED CASELAW

NACUA ANNUAL CONFERENCE

JUNE 28 - JULY 1, 1989

Peter C. Wolk *

I. AIDS is a Handicap Protected by the Rehabilitation Act and State and Local Anti-Discrimination Laws

School district was ordered under Rehabilitation Act to reinstate into regular classes seven-year old boy with AIDS-related complex; Education for All Handicapped Children Act (EAHCA), which would have required exhaustion of administrative remedies before standing, inapplicable because EAHCA only protects students whose handicap causes learning and behavioral problems and ARC was not causing such a problem. Robertson v. Granite City Community Unit School District No. 9, 684 F.Supp 1002 (S.D. Ill. 1988).

Landlord who refused to rent an apartment to three homosexual men because he feared they had or might later acquire AIDS was prevented, under a N.J. statute forbidding discrimination against handicapped, from renting to anyone else; court issued broad ruling that this state law protects not only the handicapped, but also those who could be, or are discriminated against because they are perceived to be potential victims of a handicap. Poff v. Caro, 549 A.2d 900, 228 N.J. Super. 370 (N.J.Super. Ct. Law Div. 1987).

II. Enrollment Decisions Involving AIDS

Kindergartner with AIDS who was removed from school board acting on recommendation of county health department and who was reinstated upon recommendation of department shortly after filing suit under Rehabilitation Act was denied attorneys fees for failure to show that filing suit, and not the board's expedited administrative review, caused reinstatement. Child v. Spillane, 866 F.2d 691 (4th Cir. 1989).

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School district was ordered to allow an eleven-year old student with AIDS to return to the classroom based on state law guaranteeing "entitlement" to education, and was ordered to pay plaintiff's attorney fees, first as redress under state statutory scheme for preventing an individual from enjoying public facilities and, secondly, because resolution of this important issue conferred a significant benefit on the general public. Phipps v. Saddleback Valley Unified School Dist., 251 Cal. Rptr. 720, 204 Cal. App. 3d 1110, 49 Ed. Law. Rep. 307 (Cal.Ct.App. 1988).

Rehabilitation Act and EAHCA forbid removal from classroom of mentally handicapped seven-year with AIDS as violative of requirement that education be offered in the "least restrictive setting," without a specific finding that there is a risk of transmission. Martinez v. School Bd. of Hillsborough County, Fla., 861 F.2d 1502 (7th Cir. 1988). On remand, the trial court found no risk that warranted excluding the child from regular classes. The lower court further ordered that insofar as was practicable the school district provide educational programs for the parents and students who were expected to "associate" with the infected child about the risks and possibilities of contracting AIDS. __F.Supp__ (M.D. Fla. 1989), 1989 WL 41014.

In Doe v. Dolton Elementary School District No. 148, 69 F.Supp 440 (N.D. Ill. 1988), a school board was ordered under the Rehabilitation Act to reinstate into class an twelve-year old removed from school after being diagnosed with AIDS because there was no finding that there was a significant risk of transmission of AIDS in the classroom setting.

The New Jersey Supreme Court upheld guidelines informally issued by the State Commissioner of Education which limit the exclusion from school of two categories of HIV positive children to only the following cases: (1) students who are incontinent, not toilet trained or unable to control their drooling; and, (2) aggressive students with a documented history of biting or harming others. Seeking to exclude two AIDS-infected students who were not excludible under these guidelines, local school boards challenged these guidelines, alleging: (1) that the guidelines were administrative rules which were invalid because they were not promulgated under formal rulemaking procedures, and (2) that the guidelines violated the "fundamental due process" of both the infected and non-infected students by denying them the opportunity to challenge implementation of the guidelines. The court refused to invalidate the guidelines but ruled that the Commissioner's responsibilities to the State did not obligate him to enforce the procedures, and that new rules should be properly promulgated and that hearings for interested parties had to be provided under the current guidelines. Board of Education of Plainfield v. Cooperman, 523 A.2d 655, 105 N.J. 587 (N.J. 1987).

III. Employment Decisions on the Basis of AIDS

In J.M.F. v. Emerson, 1989 WL 21781 (Mo. App. 1989), an unpublished decision, the Missouri Court of Appeals affirmed the dismissal of a negligence action brought against an employer by a lab assistant who cut herself with a lancet after using it to draw blood from AIDS patient, holding that as a matter of law permitting the plaintiff to draw blood was not a negligent act since such a task action is not difficult, does not require any special training, and did not fall within the scope of a negligence statute pertaining to more complex medical tasks. (The decision does not state whether she contracted H.I.V.)

The Indiana Supreme Court affirmed the denial of benefits to an employee, fired for refusing to handle vials with AIDS virus, who claimed that OSHA rules permitted the refusal because the task involved a reasonable apprehension of death or serious injury and a reasonable belief that no less drastic alternative was available. Employer by clearly marking the vials and following the guidelines set out by the Center for Disease Control was held to provide a sufficiently safe working environment under OSHA provisions. Stepp v. Review Bd., 521 N.E.2d 350 (Ind. 1988).

In Plowman v. U.S. Dept. of Army, 698 F.Supp 627 (E.D. Va. 1988), a former civilian employee forced to resign after testing positive for HIV brought a breach of contract suit against the Army and his superior, an Army colonel. The action against the Colonel was dismissed on the basis of a qualified good faith immunity. Action against the Army was dismissed on the ground that no employment contract existed and that plaintiff was an at-will employee.

In N.Y.C., a sublessor who refused to allow a subleasing dentist to treat AIDS victims on the premises was ordered under New York City Administrative Code forbidding handicap discrimination to pay the dentist damages because the AIDS victims were protected as "handicapped;" the plaintiff-dentist was held to have standing to assert the rights of his patients under the ordinance. Barton v. N.Y.C. Commission on Human Rights, 531 N.Y.S. 2d 979, 140 Misc. 2d 554 (N.Y.Sup.Ct. 1988).

IV. Right of Privacy

A. Privacy of Inmates

Prison medical officials' disclosure of positive AIDS test to non-medical staff and other inmates violated plaintiff-inmate's constitutionally protected right to privacy; qualified "good faith" immunity was inapplicable since revelation of a medical condition does not fall within the discretionary functions of the prison medical staff and officials should have known they were violating the inmate's rights. Woods v. White, 689 F.Supp 874 (W.D. Wis. 1988).

In Baez v. Rapping, 680 F.Supp 112 (S.D.N.Y. 1988), the examining physician and prison medical staff were held to have acted within their qualified immunity and not violated plaintiff's constitutional privacy rights when they issued a medical precaution sheet to the corrections department stating the "need to avoid [plaintiff's] bodily fluids," despite the inevitable, resulting rumors about AIDS and discrimination.

B. Privacy Issues Related to Insurance

A male living in NYC with a male roommate who brought suit against his insurer alleging that the insurer assumed him to be homosexual and was charging improperly high premiums because of the fear of an increased chance of contracting AIDS, had the right to file discrimination suit under a pseudonym so as to avoid publicizing the situation and the rumors of homosexuality and AIDS-risk. (His name was already known to the insurer.) Doe v. United Services Life, 123 F.R.D. 437 (D.C.N.Y. 1988).

The Mass. Commissioner of Insurers was held to lack authority under the pertinent state enabling statute to prohibit insurance companies from testing prospective policy-holders for exposure to AIDS. Life Ins. Ass'n of Mass. v. Comm. of Ins., 530 N.E.2d 168, 403 Mass. 410 (Mass. 1988). Similarly, in Health Ins. Assoc. of America v. Corcoran, 531 N.Y.S.2d 456, 140 Misc. 2d 255 (N.Y.Sup. Ct. 1988), the N.Y. Insurance Commissioner's regulations barring insurance companies from ordering screening tests for AIDS were struck down as arbitrary and capricious and beyond the scope of the Commissioner's powers on the grounds that testing for the HIV produces a statistically valid basis for actuarial risk classification. (Not addressed in either case is whether the companies were prevented from denying insurance policies or from charging greater premiums to those who tested positive.)

C. Privacy Issues Related to Litigation

Courts are split as to whether the identity of a suspected donor of AIDS-contaminated blood is protected by the constitutional right of privacy from disclosure for the purposes of litigation. Mason v. Regional Med. Center of Hopkins County, 121 F.R.D. 300 (W.D. Ky. 1988), holds that neither a defendant medical center nor a donor of blood alleged to have been infected with AIDS has a constitutional right to privacy in the donor's identity against a donee because such privacy is not one of the "fundamental" rights recognized by the Supreme Court to be protected by the Constitutional right of privacy. Nevertheless, the court ordered that the identity of the donor, 'John Doe' be kept private by those who learned it during the discovery process, because there was no reason that the stigma of an AIDS related condition should attach itself to 'Doe'. The identity of other donors to the blood center was kept completely confidential, since the plaintiff had not sought discovery of them.

The Texas Court of Appeals has held that discovery of blood donors' identities in a wrongful death action where the decedent contracted AIDS after treatment at Center did not violate donor's due process rights or the blood center's privacy interests. Gulf Coast Regional Blood Center v. Houston, 745 S.W.2d 557 (Tex.Ct.App. 1988).

Bonfils Memorial Blood Center v. District Court, 763 P.2d 1003 (Colo. 1988). Donor's right to privacy and donee's right to conduct the discovery recognized in negligence case against blood center where court directed plaintiff to submit deposition questions to court clerk who mailed questions and received responses from the donor.

A blood donor's identity in an AIDS wrongful death action was held to be confidential under both an Ohio and a U.S. Constitutional right to privacy and by the need to protect the state's interests in maintaining a continuing source of blood, but plaintiff was permitted to discover the procedures which the defendant blood banks followed in screening donors and their blood. Doe v. University of Cincinnati, 1988 WL 137097 (Ohio App. 1988).

V. Housing Issues

While there have apparently been no reported cases brought by roommates of students with AIDS, there have been a number filed by prison inmates requesting injunctions to prevent officials from exposing them to AIDS victims. In Glick v. Henderson, 855 F.2d 536 (8th Cir. 1988), plaintiff brought §1983 action claiming that his civil rights were being violated because the Arkansas Board of Corrections and the prison doctor were not protecting him from daily exposure to people who had tested HIV positive. The case was dismissed on the grounds that since the plaintiff presented no evidence that he was in any medical danger at all he did not allege any civil rights violations or otherwise state a cause of action. accord Cameron v. Metcuz, 705 F. Supp. 454 (N.D. Ind. 1989).

In Doe v. Coughlin, 697 F.Supp. 1234 (N.D.N.Y 1988) an HIV-positive inmate obtained a permanent injunction preventing the prison from involuntarily transferring him, where the act of transfer would have revealed the inmate's medical condition to other inmates and violated his constitutional privacy rights.

Also, in Poff v. Caro, supra, a N.J. statute was held to protect AIDS victims and those "perceived to be" potential victims of AIDS from housing discrimination. Similarly, a sublessor was found liable for damages, under a N.Y.C. ordinance barring handicap discrimination, to a dentist whom sublessor prevented from treating AIDS patients on his premises. Barton v. N.Y.C. Commission on Human Rights, supra.

VI. Health Restrictions on AIDS-Related Activities

State statutes and city ordinances designed to decrease the spread of AIDS have been used to close peep shows and adult book stores and have been upheld against challenges that they were too vague, overbroad, or otherwise violative of the First Amendment. Berg v. Health and Hosp. Corp of Marion County, Ind., 865 F.2d 797 (7th Cir. 1988); Suburban Video v. City of Delafield, 694 F.Supp 585 (E.D. Wis. 1988); and Doe v. Minneapolis, 693 F.Supp 774 (D. Minn. 1988). [Query whether such a law could be used against college organizations or fraternities for gay students.]

VII. Medical Care and Medical Records

In Doe v. University of Cincinnati, supra, the identity of the blood donor of AIDS-contaminated blood to defendant University blood center was protected by both the State and U.S. Constitutional right of privacy, but the University was required to disclose its procedures in accepting and transfusing blood.

A university medical center that transfused blood to an infant without the parents' consent was sued for battery when the infant contracted AIDS. The D.C. Circuit remanded to determine whether the transfusion was absolutely necessary to save the infant's life. If it was necessary, there would be no cause of action for battery since the necessity of the operation would act as an implied consent; if the operation was not necessary, the medical center could be liable for battery. Kozup v. Georgetown University, 851 F.2d 437 (D.C. Cir. 1988).

Numerous other cases brought against blood agencies for transfusing contaminated blood have been dismissed under state "blood shield" statutes which protect blood centers from negligence suits, but not for battery, negligence, or gross negligence. See Shelby v. St. Luke's Episcopal Hospital, 1988 WL 28996; 56 U.S.L.W. 2680 (S.D. Tex. 1988); Miles Laboratories v. Doe, 1989 WL 42660 (Md. 1989); Doe v. Travenol, 698 F.Supp 780 (Minn. 1988); Roche v. American Red Cross, 680 F.Supp 449 (Mass. 1988).

In Poole v. Alpha, 696 F.Supp 351 (N.D. Ill., 1988), the wife a decedent-hemophiliac who died of AIDS after receiving contaminated blood, was permitted to proceed with suit against the various companies that comprise the blood industry under a theory of alternate liability, under which a plaintiff can prevail against a group of tortfeasors by showing that the harm suffered must be attributable to the tortious actions of one of them. Once the plaintiff has met this requirement, the burden shifts to each tortfeasor to prove that they could not have been responsible for the harm.

In Belle Bonfils, Mason v. Regional Medical Center, and University of Cincinnati (discussed supra at 9-10), courts have allowed various forms of discovery to proceed in suits against clinics for negligence and strict liability in transfusing AIDS-contaminated blood.

The AIDS Litigation Project

A National Review of Court and Human Rights Commission Decisions, Part I: The Social Impact of AIDS

Lawrence O. Gostin, JD

NO OTHER infectious disease in recent history compares with human immunodeficiency virus (HIV) infection in the ways it has affected our relationships with each other and with our social institutions. Sharp differences in perception of public health, ethics, and civil liberties have created the largest body of legal cases attributable to a single disease in the history of American jurisprudence.

Litigation related to the acquired immunodeficiency syndrome (AIDS) impacts powerfully on the major social institutions of our nation—schools, health care, the blood supply, the judiciary, prisons, and the military. The litigation has an equal impact on cherished constitutional principles of privacy, freedom of speech and association, and liberty. The HIV epidemic even reaches into intimate personal relationships, sparking litigation against sexual partners and family members.

For editorial comment see p 1972.

This article is the first in a two-part series reviewing 469 cases that are decided, settled, pending, or filed at the federal, state, and local levels (Table 1). Courts and human rights commissions operate as a lens magnifying public policy and social tensions. The factual patterns of cases provide an intriguing insight into the contemporary history of the HIV epidemic. The cases reviewed in this survey have, for the most part, barely caught the attention of the public health community. Yet, they expose the conflicts in values that are likely to emerge as major issues in the future, requiring resolution by legislatures and health officials. This survey should provide a valuable tool in forecasting social and legal trends arising from the HIV epidemic. Cases are listed by subject in Table 2.

Table 1.—Case Breakdown by System

	Federal	State	Municipal	Total
Court	224	208	NA*	432
Agency	3	23	11	37
Total	**227**	**231**	**11**	**469**

*NA indicates not available.

Table 2.—Case Breakdown by Subject Matter

	Court Cases			Administrative	
	Decided	Settled	Pending	Agency	Total
I. AIDS education	2	0	1	0	**3**
II. Blood supply	29	14	15	0	**58**
III. Epidemiologic surveillance	9	1	9	0	**19**
IV. Criminal law	41	8	5	0	**54**
V. Public places	10	0	0	0	**10**
VI. Products and fraud	2	0	3	0	**5**
VII. Torts	12	1	10	1	**24**
VIII. Court system	7	2	0	0	**9**
IX. Family law	16	0	0	0	**16**
X. Confidentiality	12	3	10	0	**25**
XI. Prisons	47	4	13	0	**64**
XII. Military	22	0	4	1	**27**
XIII. Fear of exposure	5	0	0	0	**5**
XIV. Homelessness	1	0	0	0	**1**
XV. Discrimination	52	19	43	35	**149**
A. Education	11	2	1	0	**14**
B. Employment	9	6	18	15	**48**
C. Housing	10	0	0	2	**12**
D. Commercial	2	1	3	3	**9**
E. Health	12	5	16	13	**46**
F. Insurance	8	5	5	2	**20**

AIDS EDUCATION

From the earliest moments of the HIV epidemic, educational messages were influenced not only by public health need but by morality and politics.[1,2] Consequently, federal funds may not be used to provide AIDS prevention materials that "promote or encourage, directly, homosexual activities," and the educational content must not be "judged by a reasonable person to be offensive to most educated adults."[3] Similar legislation has been enacted in the states.[4] Litigation is pending against the Department of Health and Human Services, claiming that these restrictions inhibit the ability of organizations to produce medically accurate and effective AIDS education programs, thus infringing on their constitutional right to freedom of expression [1]. (Numbers in brackets refer to

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the Compilation of Cases at the end of the article.)

The conflict between public health and morals is nowhere more evident than in educational programs in schools. A devout religious group challenged New York's mandatory AIDS education program as a violation of its freedom of religion. The New York Court of Appeals ordered a full hearing on the group's challenge because "we cannot summarily brush aside the passionate assertions of a unique religious group that exposure to [AIDS education] could destroy the foundations of their faith" [2].

LIABILITY OF BLOOD COLLECTION CENTERS AND HOSPITALS

Reported cases of *Pneumocystis carinii* pneumonia in hemophiliacs[5] and blood transfusion[6] recipients in late 1982 first brought into question the safety of the national blood supply. By March 1983, the Centers for Disease Control had recommended self-deferral of donors who had engaged in high-risk behavior.[7] A test to detect antibody to HIV was not commercially available until early 1985.[8] Much of the current litigation concerns the failure of blood collection centers and hospitals to recommend self-deferral and/or screen for HIV during the early years of the epidemic.

The major public policy issue is whether blood suppliers should be held to a standard of negligence or strict liability. Most states have blood-shield statutes that treat blood as a service rather than a product, thus avoiding strict liability [14,17,18,20]. The clear trend is to use a standard of negligence, which effectively means that no liability will ensue if the supplier complied with the industry standard at the time [4-9,14,16]. Some juries, however, have awarded substantial damages [24,156], and one federal district court decided that a blood supplier could be held strictly liable for the transfusion of HIV-contaminated blood [13].

Even where a blood supplier has exercised due care, there remains a small chance of receiving HIV-contaminated blood. Unable to recover damages for failure to screen or to defer high-risk donors, infected patients are turning to other claims for relief, including failure to warn the patient about the risk of transfusion-associated HIV infection before obtaining consent [36,37] and failure to inform the patient about alternatives to transfusion from the general blood supply, such as directed or autologous donations [40]. The Fifth Circuit Court of Appeals held that a jury could properly find that a patient, if informed of the risk, could have refused to accept a blood transfusion [5]. Hospitals and physicians are also being sued on similar grounds [42,58,156].

To prove that a plaintiff contracted HIV infection from a blood transfusion, he or she may seek to discover the identity of the donor. The claim for discovery is said to be necessary for the administration of justice. The Texas Supreme Court [53] ruled that litigants have the right to confidential information in the interests of justice because the donor's identity does not fall within the statutorily protected physician-patient privilege, the donor's right to privacy is not compelling, and the volunteer blood supply is not unreasonably harmed. The Florida Supreme Court [49], however, came to the opposite conclusion, ruling that privacy and public health interests are more important than the plaintiff's need for the information.

Resolution of this conflict should be based on respect for the principle of confidentiality. If suppliers are forced to reveal the identity of donors, it could undermine the voluntary and confidential nature of the blood supply system [51,54]. Suppliers might then have to warn donors that they may be subject to questioning by litigants. "Such a warning is likely to cause even the most civic-minded individual to think twice before voluntarily donating his blood to help another."[9] One potential compromise would be to allow the litigant to discover whether the donor is HIV seropositive, but to safeguard the donor's identity [47,48].[10]

EPIDEMIOLOGIC SURVEILLANCE AND DISEASE CONTROL

The evidence demonstrating the efficacy of zidovudine (formerly named azidothymidine [AZT]),[11] aerosolized pentamidine isethionate,[12] and other emerging pharmaceuticals such as dideoxyinosine[13] is changing our thinking about the importance of epidemiologic surveillance and disease control. The ability of public health departments to identify persons exposed to HIV expeditiously through testing, reporting, and partner notification can be critical to effective therapeutic intervention.

Reporting

As of July 1989, a total of 28 states required health care providers to report cases of persons infected with HIV to their state public health departments. The clear trend is toward reporting of HIV infection, with many states having such proposals before their legislatures. Yet, the 28 states that require reporting of HIV infection account for only 24% of US AIDS cases.[14] Physician groups in states with high rates of seroprevalence have filed suits to order the public health commissioner to reclassify HIV as a sexually transmitted disease, which would require reporting of infection. These physician groups argue that reporting is necessary for good epidemiology and effective partner notification [62,63].

Suits by physician groups have not prevailed because classification of disease is within the sole discretion of the public health commissioner. The public health efficacy of infection reporting is not so clearly established that the courts would interfere with the commissioner's judgment [62]. As a public health matter, named infection reporting may be advantageous because it allows the public health department to target education and resources to areas of greatest need. But a parallel system in which a person can be tested anonymously is necessary to ensure that there are no perceived barriers to access to testing.[15]

Testing and Screening

Lawsuits were brought for performance of HIV tests without the consent, or sometimes even the knowledge, of the person in a wide variety of social settings: judiciary [64], corrections [67], health care [68,70,72,74], public health [69], insurance [71], and industry [66,73]. Often these lawsuits also alleged medical malpractice for failure to provide counseling and for breaches of confidentiality [68,70]. The courts have been highly inconsistent in assessing the merits of testing or screening. The doctrine of informed consent does apply to taking blood for the purposes of an HIV test [64]. Screening of fire fighters [75], for example, has been held to be unlawful because it would not reduce the already remote risk of transmission of HIV.

Courts, however, have been highly deferential in reviewing federal screening programs. Federal courts have upheld screening in the Departments of State [77] and Defense [78], and cases are pending that challenge screening of Job Corps applicants [79,80]. The stated purposes of the State and Defense Departments' screening programs were not necessarily to prevent HIV transmission, but to ensure that foreign service personnel were not put at risk of contracting opportunistic infections and to uphold America's reputation abroad.

The Immigration and Naturalization Service has a program of mandatory screening for immigration into the United States and has discretion to test temporary visitors.[16] A Dutch visitor was arrested and detained on his way to an AIDS conference after zidovudine was found in his luggage. An immigration judge found the visitor "excludable" from the United States but granted him a waiver. The US Immigration and Naturalization Service announced that the case was not a precedent and that future visitors infected with HIV may be detained in administrative custody pending a final determination [76]. The World Health Organization has advised against international travel restrictions based on a person's serological status.[17] The AIDS pandemic cannot be eradicated without international cooperation. Barriers to travel and immigration are likely to cause human hardship, while providing no global public health benefit.

THE CRIMINAL LAW

Political advocacy for a "tougher" approach to the HIV epidemic should be waning with the growing prospects for effective medical intervention. Still, the criminal courts are brimming with cases that concern persons infected with HIV.[18] Little thought has been given to whether use of coercive measures changes behavior more effectively than voluntary education and counseling.[19]

A threshold question in assessing the value of prosecuting persons infected with HIV is whether the behavior poses a significant risk of viral transmission. Several cases involve sexual assaults [89] or prostitution [83]. The great majority of cases, however, involve behaviors that are highly unlikely to transmit HIV. These include biting or spitting [81,85] or splattering blood [84].

It is exceedingly difficult to prove that a person intended to transmit HIV [82,83]. People enter sexual relationships with many different intentions, desires, and fears. Causing harm through sexuality is seldom consciously planned, although both partners may be aware of the risks. Sometimes cases involve hopelessness rather than premeditation, such as a man who splattered his blood on emergency workers. He had just made a serious suicide attempt, and his first words to the emergency workers were, "Let me die, I have AIDS." He was convicted by the jury on three counts of attempted murder, and the sentence was ultimately upheld. The Court of Appeals of Indiana said, "The defendant was aware of the infection, believed it to be fatal, and intended to infect others with the disease" [84]. In other cases, prosecutors were unable to prove that HIV-infected blood donors attempted to kill any particular person or poison the community [82].

In the future, it may well be easier to sustain a charge based on reckless endangerment [86] or HIV-specific offenses, because it is unnecessary to prove specific intent. A Las Vegas, Nev, prostitute, for example, was sentenced to 20 years' imprisonment under a state statute that mandates a felony charge for soliciting sex after testing HIV positive [87].

A federal Court of Appeals decided that the mouth and teeth of an HIV-infected person could be regarded as a "dangerous" or "deadly" weapon [81]. Testimony at the trial stated that HIV can be transmitted through a bite, even though this has never occurred. The court's decision is questionable in light of the federal definition of a "deadly" weapon, which must be "*likely* to endanger life or inflict serious bodily harm."[20] In another case, a prisoner was convicted of introducing "contraband" into a state facility by lacing a guard's coffee with HIV-infected blood [88].

The resources used to prevent low-risk behavior are not well spent, for even if the behavior can be prevented, it is unlikely to have any effect on the spread of infection. Focusing on low-risk behaviors of persons infected with HIV is also inequitable, for society already tolerates other activities that pose equal or greater risks.

HIV Testing of Criminal Defendants

The courts are increasingly requiring testing in cases of rape [106,107] and other serious sexual assaults [108,109] on the grounds that the victim's "right to know" outweighs the defendant's right to privacy [105]. In some cases testing is required even if it is difficult to identify a "victim," such as in prostitution [114] or soliciting for prostitution [99]. In other cases, the police and courts have imposed testing on persons arrested or charged with nonsexual offenses, despite the absence of any significant risk of HIV transmission. These cases include simple assault [115], biting [97,101,102], and public masturbation [116]. One court even found that a person's risk group status alone was sufficient to support testing [100]. More difficult cases involved inadvertent cuts [100,110] or needle sticks [111] sustained by police officers.

Ordering an HIV test on a criminal defendant without choice, professional counseling, or confidentiality [99,108], and in a situation where the results may be used in evidence against the defendant, needs a sound justification. The justification for testing in serious crimes involving sexual intercourse is that victims can be informed quickly whether they have been exposed to HIV. They then have the option to choose early prophylactic treatment. The problem is that there is little evidence that therapeutic intervention before a victim tests positive for HIV is of any benefit. Moreover, testing of criminal suspects immediately after arrest, before charge or conviction, may be unconstitutional.[21] One court found that HIV testing of convicted prostitutes was unconstitutional [98]. That case is currently being appealed to the Illinois Supreme Court.

Mandatory testing in cases where there is no established mode of HIV transmission appears more punitive than preventive. The victim has no compelling need for the information because of the remote chance of infection, and the relevance of the test to the criminal charge is unclear [104].

Indictment and Sentencing

The HIV epidemic has focused the court's attention on the circumstances in which it would be proper to dismiss the indictment of a hopelessly ill defendant [127]. The criteria used include the defendant's medical condition, the seriousness and strength of the case against him or her, public safety, and public confidence in the criminal justice system [126,127,130]. In cases where the defendant was bedridden [128,130], confined to a wheelchair [126], or demented [129], the indictment was dismissed in the interests of justice. In one case the charges were dismissed even though the defendant was an intravenous drug user and could potentially be a threat to the public health. The man was critically ill and dying of AIDS. The court empathetically wrote, "Even if a man has not lived with dignity, our society's own self-respect demands that he be permitted to die in dignity" [129].

Once a trial judge has passed sentence, however, appellate courts seldom reduce it because the defendant is seropositive or has AIDS [119-124]. Indeed, the appellate courts have been prepared to uphold harsher sentences for HIV-infected defendants when the offense involved sexual abuse or drugs because of the "callous" exposure of the victim to HIV [117,125].

STATE REGULATION OF PUBLIC PLACES: BATHHOUSES AND ADULT BOOKSTORES

Government action to impede the spread of HIV has included the closure or regulation of public places such as bathhouses and adult video shops and bookstores. The public health danger of sexual activity with anonymous partners in bathhouses is unmistakable [137], and courts have shown little hesitation in upholding their closure [135,136]. Courts have similarly upheld the closure of theaters because high-risk behaviors were allowed to take place [143]. The courts have held that the public health interest is "compelling" and "overwhelms" the patrons' rights to privacy. However, a less restrictive alternative was required in San Francisco, Calif, where bathhouses could remain open subject to restrictions intended to decrease unprotected sexual activities (*New York Times*. October 24, 1985:A1).

Less clear is the impact of adult video shops or bookstores in contributing to the spread of HIV. When the state controls the sale of literature or movies, it may affect not only the right to privacy, but also the right to free expression guaranteed under the First Amendment. The federal courts have found constitutional local ordinances that require viewing booths to be open and visible to the public. The goal is to prevent sexual activity, including masturbation [138,140,142]. These ordinances have been upheld because they are content neutral, serve a public health purpose, and do not interfere with the right to view films [138-141].[22] But ordinances may not impose onerous licensing requirements such as demanding a high moral character from the proprietor [140,142].

In *Sable Communications v FCC*, the Supreme Court heard arguments that telephone pornography ("dial-a-porn") is used as a form of safe sex. The Supreme Court ruled that Congress cannot constitutionally deny adult access to telephone messages that are indecent but not obscene [144].

STATE REGULATION OF PRODUCTS, CONSUMER PROTECTION, AND FRAUD

One of the prime roles of government is to protect ill persons from being exploited by sellers who make exaggerated or false promises about a cure or palliative for their medical conditions. The Food and Drug Administration must approve pharmaceuticals and medical devices as safe and effective for the purposes for which they are advertised to the public. Civil charges were filed against companies for advertising and selling AIDS-related pharmaceuticals [148], pesticides [147], and medical devices such as one for resuscitation [149] that were not approved. Of particular importance was the decision of three state governments to file suit against the manufacturer of an HIV antibody home testing kit [146]. Home testing kits have not been approved by the Food and Drug Administration because proper diagnosis and counseling cannot be ensured. State licensing authorities can also bring suit against health care professionals for insupportable claims for treatment, such as a promise that hypnosis could reverse HIV infection [145].

ADMINISTRATION OF JUSTICE

New York State guidelines on persons with AIDS in the courtroom suggest that judges may press defendants to waive their right to appear in court; surgical gloves, masks, and plastic shields may be kept on hand but out of sight; and "court officers may guard an afflicted person . . . from a distance of up to 10 feet."[23] These policies, born of unsubstantiated fear, are reflected in cases across the country in which defendants claimed they were denied a fair trial because court officers wore rubber gloves [174] or face masks [175]; sheriffs refused to transport the defendant to trial [177]; or the judge required that pleas be made by telephone, from behind glass, or by closed-circuit television [178].

Some appellate courts have reassuringly held that no special precautions are necessary to prevent the spread of HIV [176]. However, appellate courts have not overturned decisions where the defendant's serological and high-risk-group status were needlessly disclosed to the judge [92], jury [90,93,94], or grand jury (*New York Times*. December 14, 1988:A1) [91]. Specific cases include asking jurors detailed questions about their attitudes toward homosexuality and AIDS [95] or toward sitting with a defendant infected with HIV [90]. In virtually all these cases, the information about HIV was extraneous to the question of the defendant's innocence or guilt [90,95,96].

Such practices undermine the fairness of the fact-finding process and dilute the principle that guilt is to be established by probative evidence and not irrelevant and prejudicial information presented to the jury [175]. The attitudes exhibited in the trial court system feed intemperate, ill-founded assumptions about persons with AIDS. They demonstrate the need for education of judges in matters of public health and for review of intolerant judicial guidelines, a position endorsed by the American Bar Association.[24,25]

PRIVATE TORT ACTIONS

America has become a highly litigious society. Contracting a disease used to be perceived to be a matter of chance or inadvertent misfortune. Today, it is not unusual for an ill person to search for fault and, with it, liability. Claims of lack of due care, even bad faith or betrayal, by those who have been exposed to HIV have found their way to the courts. The depth of mistrust spans many relationships: patients against their hospitals or physicians [154,155], health care professionals against the facility that employs them [152,153,159], one health care professional against another [166,171], and sexual partners against their heterosexual [170] or homosexual lovers [163,164].

These lawsuits often involve fascinating claims that highlight the social and personal conflicts engendered by the epidemic. Lawsuits have evolved out of the physician-patient relationship, with the patient claiming the health care provider was negligent by virtue of failing to diagnose and treat [156], or of falsely diagnosing [160], HIV disease. Other cases have evolved from the employer-employee relationship. Health care professionals have brought actions against hospitals when they were stuck with HIV-contaminated needles that were left among gauze and other refuse [152], when a hospital refused to allow the routine wearing of gloves so as not to spread fear [159], or when a hospital failed to dispose of hazardous waste properly [158,162]. One court would not allow a negligence claim when a nurse stuck herself with a lancet she was using under the instructions of her supervisor. The court held that the only remedy was a claim for workers' compensation [171].

COMPETENCY TO MAKE DECISIONS ABOUT TREATMENT, CONTRACTS, AND WILLS

Since HIV disease can affect the neurological system, causing dementia and other cognitive deficits,[26] there may be challenges to a person's competency to make decisions relating to treatment, contracts [172], and wills [173]. The competency of persons with AIDS is extremely important because they may have to make difficult decisions about life-prolonging treatment and disposal of their estates. The potential for deep divisions within the family can occur when a homosexual man leaves his estate to his longtime partner, and not to his blood-related family. The only hope the family may have to set aside the will is to argue that the person was suffering from AIDS dementia and was incapable of rationally executing the will. In one case, the treating physician testified that the patient was lucid when he made the will, and he spoke of a rift between the patient and his family. The court affirmed the will that left the person's estate to the partner [164].

Persons infected with HIV want to ensure that their personal values and choices will be reflected in future decisions about treatment and disposal of property. Good counseling should encourage the person, while fully competent, to make an advance directive for treatment decisions, such as a living will or durable power of attorney, and to execute a binding will.

FAMILY LAW

The potential for HIV disease to stir conflict within the family is apparent. Infection is transmitted sexually and perinatally, affecting the spouse and future offspring. The attachment of blame to infected persons can be used as a weapon in divorce, custody, and visitation disputes. Finally, the infected person's health, including his or her mental health, can be used to suggest incapacity to care for, or supervise, a child.

A spouse who knows he or she has a sexually transmitted infection, lies to his spouse, and actually transmits the infection can be held liable.[27] A jury awarded $2.1 million to the ex-wife of a man who died of AIDS. The husband failed to tell his wife that he was HIV positive [185]. But if a husband, although bisexual, did not know he was infected with HIV, and had not in fact transmitted the infection to his wife, he would not be held liable. The court refused to open a "Pandora's Box" where "a party who alleged adultery would have a tort action for AIDS phobia because any infidelity might lead to HIV" [184].

Apart from the limited tort of intentionally concealing a sexually transmitted disease from a spouse, the courts usually have not found HIV infection to be relevant in deciding family law cases.[28] Parties have contended that HIV could be transmitted if a baby tooth fell out [186], that an infant's diaper would not be changed promptly [189], or that a parent with HIV disease would not be psychologically stable [190]. Sometimes the objections, such as a refusal to allow the child to be in the same room with a homosexual father [188] or his partners [191], appeared to be of a moral nature only. Courts found that HIV infection [183], AIDS [187], or AIDS dementia [190] was not in itself relevant to the determination of parental fitness or a child's best interests.

Most courts also would not mandate an HIV test [193-196]. The courts reasoned that even if a person were infected, it would not materially affect the ability to be a good parent. However, one court, without providing reasons, did compel an HIV test and restricted the parents' visitation privileges [191].

The overriding standard in family law is the best interests of the child. The child's welfare is promoted by having loving relationships with both parents. A parent with HIV disease has as much to give his or her child as any other parent. To divest a parent of the human right to care for his or her child not only devalues the parent, but deprives the child of the nurturing that the parent can give.

CONFIDENTIALITY

There is a potentially irresolvable tension between patients' rights to confidentiality and the right of others to the knowledge that they may be exposed to infection. The dilemma for the medical profession is particularly acute because of the conundrum of legal principles relating to AIDS confidentiality.[29] There is no certainty as to who must be warned, and under what circumstances. The discretion is left to the physician, and if he or she makes the wrong decision it could result in liability.

Public policy protects the records of carriers of infectious disease who present themselves for treatment. The rationale is to encourage persons to seek testing or treatment and to confide in their physicians [204]. Health care providers have an obligation to follow proper medical procedures for the maintenance of confidentiality of HIV test results [216]. If the provider has careless procedures for record keeping and training of staff with respect to privacy, he or she can be held liable. For example, health care providers have been found liable for posting names of HIV-positive patients on a laboratory bulletin board to allay the fears of technicians [210], permitting the news media in the waiting room [199], or disclosing a patient's HIV status to family, friends, or employers [205,209,211]. Similarly, it was held a violation of confidentiality for a health care provider to view treatment records of his or her patient to determine the patient's fitness for employment by that provider [208]. A patient's treatment records are available to a health care provider only when the provider is acting in the patient's therapeutic interests.

Disclosure of a person's HIV test results can be personally hurtful (especially when the result is a false positive [213]). A pediatrician's 12-year medical practice collapsed when the local community learned that he was seropositive [207], a child was shunned at school when parents in the neighborhood heard that her mother was infected [215], and a patient lost his social support network after a hospital pastor falsely accused him of lying about his HIV status in front of his circle of close friends [217].

'RIGHT TO KNOW'

As important as the principle of confidentiality is, it must yield when clearly necessary for the public health. Litigants are claiming a right to be informed of a potential exposure to HIV, ranging from sexual and needle-sharing partners to health care and emergency workers. The right to know takes on increasing importance with the brightening prospects for effective early intervention that can slow the progression of disease and potentially provide years of a fuller life. Were science to demonstrate lower infectivity among persons using zidovudine, it would fuel calls for greater access to information. As the science of HIV disease rapidly changes, so do the law and ethics.

The argument that information is necessary to ensure early access to treatment is being made in court. The most obvious example is the right of a patient who tests positive to be informed of the results. In one case, the physician never informed her patient of a positive test result. The patient had sex with several partners, at least one of whom contracted the infection. He sued the physician for negligence and abandonment [167]. An important contention was that the patient did not have the opportunity to receive early prophylactic treatment.

The 'Look Back' Program

Most blood suppliers have a "look back" program, which is designed to inform recipients that they have undergone transfusion with contaminated blood. A claim that arises with increasing frequency is that patients were not informed quickly enough, thereby causing a delay in medical treatment [59].

Duty to Warn

During the earlier days of the syphilis epidemic, the right of a woman to be informed if her sexual partner was contagious was a feminist issue debated with great force.[30] Today the same issues arise with HIV infection, and some people who have been exposed are suing their physicians, public health departments, or even their sexual partners because they were not told. The ethical expectation of knowledge is perhaps strongest in the cases of an estranged wife [221] and a pregnant woman [219] who were not informed that their partners were seropositive, ostensibly because of the principle of confidentiality. Casual sexual relations or sharing syringes and needles in a residential health care facility can be just as detrimental to the public health [206].

Health care providers are in a difficult position because courts may find them negligent for breach of confidentiality when they warn sexual or needle-sharing partners. A court, for example, would not support a drug addiction clinic's decision to disclose to a client's sexual and needle-sharing partners that he was infected with HIV. The court said that since all clients were counseled not to engage in high-risk behavior, there was no need for them to know the identity of the infected contact [206]. But another court did uphold a physician's decision to inform a woman who was 9 weeks' pregnant that the father was HIV positive. The court held that disclosure of confidential medical information was proper in cases of emergency [219].

Sexual Partners

The courts have developed a legal doctrine that a person must disclose sexually transmitted diseases to their partners. The doctrine, first put forward for syphilis[31] and herpes simplex,[32] has now moved to HIV. Juries have awarded huge sums of money for the "egregious" conduct of not disclosing, even intentionally hiding, the fact that a sexual partner is infected with HIV [164]. But appellate courts would not allow damages for physical debilitation when, in fact, the plaintiff never contracted HIV. His only claim could be for emotional distress [163].

The courts have not been prepared to say that plaintiffs assumed the risk by entering into sexual, even homosexual, relationships. Even when the plaintiff engaged in high-risk behavior and when the sexual partner was quite apparently ill, the courts have found no excuse for nondisclosure. However, the sexual partner must have reason to know he or she is infected with HIV. Merely being at high risk for HIV may not be enough to establish liability.

Certainly, the law ought to encourage people to be honest with their sexual partners. But responsibility should rest with both parties to use condoms and exercise prudence in sexual relationships. The award of exorbitant damages to an intimate sexual partner may devalue personal relationships and underestimate their complexity.

Workers

The ethical importance of informing persons at significant risk of exposure to HIV is established by the benefit that knowledge can provide for early treatment and prevention. But that benefit becomes much more tenuous if the risk of contracting infection is very low. Evaluating legal and ethical arguments for a right to be informed, therefore, requires an assessment of risk.[33] A health care or emergency worker who sustains a substantial percutaneous exposure has a low, but real, risk of contracting infection.[34] The worker may have a moral claim against the patient since the injury occurred in the service of the patient. Immediate chemoprophylaxis following a needle-stick injury, although controversial, remains a legitimate option.[35]

If the worker has not sustained a significant exposure, there is very little justification for a right to be informed. Yet, the majority of cases have been brought by prison guards [169], police [223], morticians [222], and security [168] and clerical [158] personnel in hospitals who complained that they were not informed in advance that particular persons were seropositive. One court, for example, held that the corrections department must provide the union with the names of seropositive prisoners to ensure a safe working environment [245]. Perhaps the most sympathetic response would be owed to the operating room nurse who sued her colleagues when she was the only one in the theater who was not apprised of the patient's positive serology [166].

A worker's right to know of occupational risks appears to derive from employment law, in which the Occupational Safety and Health Administration requires disclosure of hazardous substances in the workplace. But the right of a worker to be informed of persons who are infected is quite different. Here the burden falls not on the employer, but on a person whose privacy is needlessly violated. Announcing the HIV status of patients, clients, or inmates when there is no strong public health justification is hurtful to the person concerned, while achieving no reduction in occupational risk.

The Media

The press has published numerous stories that identify prominent personalities or respected professionals as infected with HIV. The media's position is that the public has a right to be informed of the reality of AIDS in its community. This public purpose, said one court, is in harmony with the legislative purpose of freedom of information that "the public, represented by a free press, should have access to the records of government" [200]. Freedom of the press would not allow an action for breach of privacy or intentional infliction of mental distress [202].

Yet, it is often difficult to separate a legitimate public purpose in publishing this intimate health care information from the purely prurient interest. Persons with AIDS and their families may suffer humiliation and loss of dignity if their private lives are discussed in the press [199]. *The National Enquirer*, for example, published an article from an unconfirmed court affidavit that a prominent public figure was seropositive. The newspaper did not publish the fact that the affidavit was subsequently withdrawn. The plaintiff claimed that the article was printed with actual malice, knowing that the information was untrue [212].

There is considerable doctrinal uncertainty across the United States about the confidentiality of death certificates. Some states significantly restrict the disclosure of the cause of death, while other states freely allow it under their freedom of information laws. The Department of Health in one state refused to release a death certificate to the press because the only purpose of the information was "idle curiosity." The court held that privacy rights may not be exercised by the living on behalf of the dead [200]. But another state court recognized that a death certificate represents sensitive and private information that could cause embarrassment. The newspaper wanted the record to prove that the deceased had for many years been practicing medicine while infected with HIV [201].[36]

Freedom of information has an important social value in America. But strong grounds exist for statutes to restrict public access to medical certification of the cause of death, unless there is a clear and convincing purpose. A generalized public "right to know" cannot outweigh the loss of reputation and dignity of the deceased and his or her family.

SPECIAL POPULATIONS: PRISONS

The HIV epidemic in the nation's corrections system, particularly in high-prevalence areas, is disturbing.[37] A closed environment in which there may be homosexual contact, needle sharing, and sexual assaults may be conducive to the spread of HIV. In one case, for example, approximately 20 inmates disclosed that they had homosexual relations with an inmate and discovered he was infected only after he died of AIDS [245]. The critical policy question is whether the usual public health strategy of testing and treatment on a fully consensual basis can work in closed institutions. Although guards and inmates want to achieve the same goal of impeding the spread of HIV, the litigation reflects their profound differences on the best policies to achieve this goal.

The Eighth Amendment of the Constitution protects prisoners from cruel and unusual punishment, and this has been interpreted to require corrections officials to protect inmates from contracting communicable disease [227,229]. It is argued that compulsory screening and segregation are necessary to prevent the spread of HIV in prison. Often the cases are based on irrational fears such as transmission by casual contact [227-231] or by food [236,238,243]. Sometimes the fears were graphically described: a severe bite that exposed the bone [224], assaults by cell mates [242], frequent knife-stabbing incidents [241], or forcing prisoners to clean the rooms of AIDS patients [237]. The courts consistently rejected these claims on the grounds that the evidence was insufficient both to demonstrate a real risk of transmission of HIV and to show that screening or segregation would reduce the risk [224,226,232-236].

Virtually all courts also rejected claims by HIV-positive inmates that their civil rights are violated when corrections departments require screening and segregation [259-261]. Indeed, inmates had no right even to a hearing before being placed in segregation [258]. The reason is the marked propensity for the courts to uphold the administrative discretion of corrections officials [228,261]. Still, one court struck down the establishment of an "AIDS unit" because it violated the privacy rights of inmates infected with HIV [244].

Inmates have complained bitterly that they have not received adequate medical treatment for HIV disease. The complaints in these cases included failure to diagnose HIV disease [268], misdiagnosis [271], refusal to treat *Pneumocystis* pneumonia [276] or other HIV-related symptoms adequately [277], and refusal to provide zidovudine [274,278,279] or treatment for alcohol or drug dependency [267]. Prisoners who were segregated in an "AIDS unit" were particularly troubled by the placement: a single infected woman in isolation was never permitted out of doors [260]; prisoners were deprived of social, recreational, and rehabilitative opportunities [261], family visits [263], or attendance at religious services [264,267]; and prisoners were housed in badly overcrowded conditions and received poor nutritional and medical services [266,267,276,279].

To prove a case for denial of medical care, an inmate must prove a "deliberate indifference to serious medical needs" [271,272]* and physical harm [268]. Still, courts would be prepared, in extreme cases, to order the prison to provide zidovudine to inmates [274] and to permit a prisoner to remain in a zidovudine clinical trial [273]. One court even ordered the prisoner's release because his physical condition was rapidly deteriorating because of inadequate medical care [275]. The courts, then, are loath to hold corrections departments liable, but they may seek to ensure that prisoners with HIV disease receive necessary life-prolonging treatment.

Courts have also recognized the importance of AIDS education. A failure to provide adequate education about sexuality, condom use, and needle sharing could potentially create such emotional distress as to amount to cruel and unusual punishment [230,231,237]. One federal court ordered the state to hire an AIDS coordinator to provide high-quality staff training, systematic inmate education, and professional counseling [257].

Policies designed to control the spread of HIV in prisons should consider the terms of progressive consent decrees [225], which provide that no housing area can be specifically designated for HIV-infected inmates. Infected inmates must be given primary and specialized health care, counseling, prophylaxis for HIV-related infections, recreation, association, and privileges [270].

CONCLUSION

This article demonstrates that there is a new and rapidly expanding body of case law that fundamentally affects public health policy. The courts can help enforce public health imperatives by regulating unsafe sex in public places or the marketing of drugs and medical devices. The courts can even be used to try to push government much further than it dares to go, such as by dismantling political impediments to AIDS education, compelling the state to provide adequate treatment in closed institutions, or enforcing a duty of care owed to children with AIDS. Most important, when court decisions on major public policy issues are hopelessly divided, confused, or simply contrary to sound public health principles, policymakers must be made aware and take corrective action. Our ability to anticipate the rapidly changing social impact of the HIV epidemic, and not simply react, is dependent on understanding the bitter disputes that are played out in the forum of the nation's court system.

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COMPILATION OF CASES, PART I

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II. Protection of the Blood Supply

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B. Blood Donor Confidentiality

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48. *Belle Bonfils Mem Blood Ctr v Dist Ct of Denver*, 763 P2d 1003 (1988).
49. *Rasmussen v S Fla Blood Serv*, 500 So2d 533 (1987).
50. *Gulf Coast Regional Blood Ctr v Houston*, 745 SW2d 557 (Tex App 1988).
51. *Doe v Univ of Cincinnati*, 42 Ohio App 3d 227 (1988).
52. *Krygier v Airweld*, 520 NYS2d 475 (1987).
53. *Tarrant Cty Hosp Dist v Hughes*, 734 SW2d 675 (Tex App 1987).
54. *Stenger v Lehigh Valley Hosp*, 563 A2d 531 (Pa Super 1989).
55. *Howell v Spokane and Inland Empire Blood Bank*, Sup Ct, Spokane Cty, Wash; AIDS Lit Rptr 09/23/88.
56. *Doe and Doe v Amer Red Cross*, Cir Ct, Davidson Cty, Tenn; AIDS Lit Rptr 08/26/88.
57. *Glessner v Blood Ctr of SE Wis and John Doe*, Wis Cir Ct, Milwaukee Cty, Wis.

C. Directed Donations

58. *Doe v Johnston, Iowa Methodist Med Ctr*, Dist Ct, Polk Cty, Iowa; AIDS Lit Rptr 09/09/88.

D. Duty to Inform Recipients of Contaminated Blood

59. *Kobey v Alvarado Hosp*, Sup Ct, San Diego Cty, Cal; AIDS Lit Rptr 09/09/88.

E. Business Concerns

60. *Genetic Sys v Abbott Labs*, 691 F Supp 407 (DDC 1988).
61. *In re Southern Biotech*, 37 BR 311 (Bkrtcy MD Fla 1983).

III. Epidemiologic Surveillance and Disease Control

A. Mandatory Reporting

62. *NY State Soc of Surg v Axelrod*, Sup Ct Albany Cty, NY 1988.
63. *McNamee, Cummins and Cal Physicians for a Logical AIDS Response v Kizer*, Sup Ct, LA Cty, Cal; AIDS Lit Rptr.

B. Testing and Screening

1. Informed Consent

64. *Doe v Equifax Serv*, 1989 WL 57348 (ED Pa).
65. *Guardianship of Anthony*, 402 Mass 723, 524 NE 1361 (1988).
66. *Zabusky v MBW Adver Network*, Sup Ct, NY; LAMBDA and NYLJ 08/13/88, p27, col4.
67. *Adams v Basso*, Sup Ct NJ, App Div Doc No. A-5583-86T5.
68. *Doe v Conly, MD and Geisinger Clinic*, USDC MD Pa; LAMBDA.
69. *Doe v Dyer-Goode, MD*, 566 A2d 889 (Pa Super 1989).
70. *Doe v Wills Eye Hosp and Wieland, MD*, Ct of Common Pleas, Phil Cty, Pa; LAMBDA.
71. *Doe v Maccabees Mutual Life*, Dist Ct, Harris Cty, Tex 190th Jud Dist 88-55795; ACLU.
72. *Doe v Shasta Gen Hosp*, Shasta Cty, Cal Super Ct No. 92336 CA.
73. *Doe v Trident Cruise Serv*, ACLU.
74. *Doe v Bapt Hosp and John Lamb, MD*, Chancery Ct, Davidson Cty, TN 88-3459; LAMBDA.

2. Constitutional Search and Seizure

75. *Anonymous Fireman v City of Willoughby*, USDC ED Ohio; AIDS Lit Rptr 05/27/88.
76. *In re Hans Paul Verhoef, US Immigration & Naturalization Serv*, 04/07/89.

3. Federal Screening Programs

77. *Local 1812, Amer Fed of Gov't Employees v US Dept of State*, 662 F Supp 50 (DDC 1987).
78. *Batten v Lehman*, USDC Col, No. 85-4108, 01/18/86
79. *Shannon and Doe v US Dept of Labor*, USDC Boston, Mass, 04/04/89.
80. *Dorsey v US Dept of Labor*, USDC DDC, No. 88-1898.

IV. Criminal Law

A. Crime of Risking Transmission of HIV

81. *US v Moore*, 669 F Supp 289 (D Minn 1987), 846 F2d 1163 (8th Cir 1988).
82. *People v Markowitz*, Super Ct, LA, Cal; AIDS Lit Rptr 03/11/88.
83. *State v Sherouse*, 536 So2d 1194 (Fla App Ct 5th Dist 1989).
84. *Indiana v Haines*, 545 NE2d 834 (Ind App 2d Dist 1989).
85. *Alabama v Brock*, AIDS Lit Rptr 10/28/88.
86. *State v Beason*, Cir Ct, Lane Cty, Ore; AIDS Lit Rptr 02/12/88.
87. *State v Kearns*, Nev Dist Ct, Clark Cty, No. C86584X, 03/09/89.
88. *People v Dunn*, Fla Crim Case; ACLU; Assc Press rls 09/28/87.
89. *South Carolina v Phillips*; ACLU, 08/08/87

B. Prejudice to the Fairness of the Trial

90. *State v Mercer*, 208 Conn 52, 544 A2d 611 (1988).
91. *People v Hawkrigg*, 525 NYS2d 752 (1988).
92. *People v George*, 524 NYS2d 557 (1988).
93. *People v Parker*, 522 NE2d 1063 (NY 1988).
94. *Cmwlth v Newman*, 555 A2d 151 (Pa Super 1989).
95. *Wisc v Van Straten*, 409 NW2d 448 (1987), *cert den*, 484 US 932 (1987).
96. *Wash v Farmer*, Ct App, Wash; AIDS Lit Rptr 02/10/89.

C. Compulsory Testing of Criminal Defendants

97. *Barlow v Super Ct, San Diego*, 190 Cal App3d 1652 (4th Dist 1987).
98. *People v Madison*, Cir Ct Cook Cty, Ill, No. 88-123613 (1989).
99. *Neb v Patrick*, Dist Ct Douglas Cty, Doc 120 No. 900.
100. *Rice v Palo Alto Mun Ct*, Super Ct, Santa Clara Cty, Cal; AIDS Lit Rptr

04/14/89.
101. *Johnson v Mun Ct, San Fran*, Ct of App 1st Dist Cal; AIDS Lit Rptr 3/24/89 & 04/14/89.
102. *Dungo v Hon James Ford, Cal Super Ct*, AIDS Lit Rptr 02/24/89.
103. *Conn v Volpe*, Dist Ct, Fairfield, Conn; AIDS Lit Rptr 10/28/88.
104. *In re Dept of Soc Serv on Behalf of Troy C v Janice T*, 137 AD2d 527 (NYAD 2d Dept 1988).
105. *People v Cook*, 533 NE2d 676 (1988).
106. *Cmwlth v Winkelspecht*, 538 A2d 498 (Table) (Pa 1988).
107. *Cmwlth v Mason*, Ct of Common Pleas, Luzerne Cty, Pa; AIDS Lit Rptr 01/29/88
108. *Shelvin v Lykos*, 741 SW2d 178 (Tex App Hous 1st Dist 1987).
109. *State v Bullock*, Sup Ct, Wis; AIDS Lit Rptr 11/11/88.
110. *Creek v Herndon*, Cir Ct, Wash Cty, Md; AIDS Lit Rptr 02/24/89.
111. *Brown v Torres*, Sup Ct, Bronx Cty, NY; AIDS Lit Rptr 04/14/89.
112. *Doe v Police Offcr*, USDC ED Pa, Civ No. 88-1897, 88-2865.
113. *Doe v City of Cleveland*, USDC ND, Ohio, E Div, No. C86-696, 11/20/87.
114. *Hooking Is Real Employment (HIRE) v Ledbetter*, USDC ND, Ga, Atl Div; LAMBDA 1987.
115. *People v Burkett*, NY Sup Ct, App Div, 1st Dept, IND6736-87; ACLU 11/16/87.
116. *Barrows v Van Sciver, 3rd Cir Ct Judge*, Dist Ct, 3d Jud Dist, Utah; AIDS Lit Rptr 09/09/88.

D. Higher Sentences for HIV Positive-Offenders

117. *Cooper v Fla*, 1st Dist Ct of App, Fla; AIDS Lit Rptr 04/14/89.
118. *Brooks v Fla*, 519 So2d 1156 (Fla App 5th Dist 1988).
119. *State v Waymire*, 504 So2d 953 (La App 1st Cir 1987).
120. *NJ v Wright*, 534 A2d 31 (NJ Super AD 1987).
121. *People v Brandow*, 528 NE2d 896 (NYAD 1988).
122. *People v Chrzanowski*, 147 AD2d 652 (NYAD 2d Dept 1989), *app den*, 74 NY2d 662 (1989).
123. *People v Ford*, 533 NYS2d 325 (2d Dept 1988), *app den*, 73 NY2d 921 (1989).
124. *People v Napolitano*, 137 AD2d 414 (NYAD 2d Dept 1988).
125. *Ore v Guayante*, 99 Ore App 649 (Ore App 1989).

E. Dismissing the Indictment in the Interests of Justice

126. *People v Hammonds*, 73 NY2d 892 (1989).
127. *People v Moros*, Sup Ct, Kings Cty, NY; AIDS Lit Rptr 12/09/88.
128. *People v Quinn*, Sup Ct, Queens Cty, NY; AIDS Lit Rptr 11/11/88.
129. *People v Williams*, 519 NYS2d 943 (1987).
130. *People v Camargo*, 516 NYS2d 1004 (Sup Ct, Bronx Cty 1986).

F. Conviction of Licensed Prostitute

131. *Nev v Kearns*, Dist Ct, Clark Cty; AIDS Lit Rptr 04/14/89.

G. Miscellaneous

132. *Cal v Dalton*, Orange Cty; AIDS Lit Rptr 09/23/88.
133. *State v Saxon*, 545 A2d 255 (1988).
134. *Baker v Wade*, 553 F Supp 1121 (ND Tex 1982).

V. State Regulation of Public Places

A. Bathhouses

135. *NYC v St Mark's Baths*, 130 Misc2d 911 (NY Sup 1986), *aff'd*, 122 AD2d 747 (1986).
136. *People v 3MCS*, Super Ct, LA, Cal; AIDS Lit Rptr 09/09/88.
137. *Los Angeles v Benson*, Super Ct, LA Cty, Cal; AIDS Lit Rptr 05/13/88.

B. Adult Bookstores and Video Stores

138. *Movie & Video World v Bd of Com'rs of Palm Beach*, 723 F Supp 695 (SD Fla 1989).
139. *Doe v Minneapolis*, 693 F Supp 774 (D Minn 1988).
140. *Suburban Video v City of Delafield*, 694 F Supp 585 (ED Wis 1988).
141. *Berg v Health & Hosp Corp of Marion Cty*, 667 F Supp 639 (SD Ind 1987), *aff'd*, 865 F2d 797 (7th Cir 1989).
142. *Broadway Book v Roberts*, 642 F Supp 486 (ED Tenn 1986).

C. Theaters

143. *NYC v Cinema 14 Theatre*, AIDS Lit Rptr 10/28/88.

D. Communications

144. *FCC v Sable Communications*, 109 S Ct 2829 (1989).

VI. State Regulation of Products, Consumer Protection, and Fraud

145. *People v Martin and Martin*, Sup Ct, Albany Cty, NY; AIDS Lit Rptr 12/23/88.
146. *MN v TBA*, Dist Ct, Stearns Cty, Minn; AIDS Lit Rptr 08/12/88.
147. *Complaint by the EPA Against Georgia Steel and Chem Co*, AIDS Lit Rptr 02/26/88.
148. *People v Ancient Gold*, Super Ct, LA Cty, Cal; AIDS Lit Rptr 12/28/87.
149. *Mo v Nave Airway*, Cir Ct, Jackson Cty, Mo; AIDS Lit Rptr 07/29/88.

VII. Private Tort Action, Contracts, and Wills

A. Negligence

150. *Ageloff v Delta Airlines* and *Epstein v Delta Airlines*, USDC SD Fla, Case No. 86-8035; ACLU.
151. *Miller and Miller v NYC Health & Hosp Corp*, Sup Ct, NY Cty, NY, 04/13/89; AIDS Lit Rptr 04/29/89.
152. *Prego v NYC*, 141 Misc2d 709 (NY Sup 1988), *aff'd*, 147 AD2d 165 (NYAD 2d Dept 1989).
153. *DiMarco v Hudson Valley Blood Serv*, 532 NYS2d 488 (Sup Ct, Bronx Cty 1988), *aff'd*, 147 AD2d 165 (NYAD 2d Dept 1989).
154. *Mosele v Bures*, 139 Misc2d 409 (NY Sup 1988).
155. *Mondello v NY Hosp*, Sup Ct, NY; AIDS Lit Rptr 04/15/88.
156. *Quintana v United Blood Serv*, Dist Ct, Denver, Colo; AIDS Lit Rptr 06/10/88.
157. *Chavez v USC Med Ctr*, Super Ct, LA, Cal; AIDS Lit Rptr 06/10/88.
158. *Quinn v USC Med Ctr*, Super Ct, LA Cty, Cal; AIDS Lit Rptr 04/29/88 & 12/28/87.
159. *Watson v San Fran Gen Hosp*, Super Ct, San Fran Cty, Cal; AIDS Lit Rptr 12/11/87.
160. *Bannow v Mich Public Health Dept*, Mich Cir Ct; AIDS Lit Rptr 03/10/89.
161. *Brown v Shapiro, The Fertility Clinic*, Cir Ct, Rock Cty, Wis; AIDS Lit Rptr 11/11/88.
162. *NJ EPA v Cent Diagnostic Labs*, Super Ct, Middlesex Cty, NJ; AIDS Lit Rptr 08/29/88.

B. The 'Right to Know'

163. *Christian v Sheft*, Super Ct, LA; AIDS Lit Rptr 04/29/89.
164. *Christian v Sheft, Executor of the Estate of Rock Hudson*, Super Ct, LA Cty; AIDS Lit Rtpr 02/24/89.
165. *CAU v RL*, Minn Ct of App, No. C2-88-2492, 04/18/89.
166. *Halverson v Brand and Cohen*, Sup Ct, Pa, 11/86; AIDS Lit Rptr 04/29/88.
167. *Long v Basile*, Cir Ct, Roanoke, Va 06/22/89.
168. *Johnson v WVa Univ Hosp*, WVa Cir Ct, Momongalia Cty; AIDS Lit Rptr 03/24/89.
169. *Adams v Leesburg State Prison*, Super Ct, Cumberland Cty, NJ; AIDS Lit Rptr 06/24/88.
170. *CAU v RL*, Ramsey Cty, Minn Dist Ct No. 86-11C480825; ACLU 11/05/86.

C. Worker's Compensation

171. *JMF v Emerson*, 768 SW2d 579 (Mo App 1989).

D. Contracts and Wills: AIDS Dementia

172. *Mapplethorpe v NY Hist Society*, Sup Ct, NY Cty; AIDS Lit Rptr 11/11/88.
173. *Estate of George O'Shields*, Ga Probate Ct, Fulton Cty; AIDS Lit Rptr 02/24/89.

VIII. The Administration of Justice

A. Special Precautions Against Contagion in the Courtroom

174. *Davis v Walker*, USDC ND Ala; AIDS Lit Rptr 12/28/87.
175. *Wiggins v Maryland*, 554 A2d 356 (1989).
176. *In re Peacock*, 59 BR 568, Bkrtcy SD Fla 1986.
177. *Doe v Phil Sheriff's Ofc*, Phil AIDS Task Force press rls 02/23/88.
178. *Re: Jefferson Cty Dist Ct Judges*, AIDS Law & Lit Rptr 01/89.

B. Right of Media to Court Depositions

179. *Stenger v Lehigh Valley Hosp*, 554 A2d 954 (Pa Super 1989).

C. Expedited Trial

180. *Schneider v Flowers*, 137 Misc2d 512 (NY Sup 1987).
181. *Murphy v Comm Hosp of the Monterey Peninsula*, Super Ct, Monterey Cty; AIDS Lit Rptr 09/09/88.

D. Prejudice to the Trial Court's Decision

182. *Elam v Alcolac*, 765 SW2d 42 (Mo App 1988).

IX. Family Law

A. Divorce

183. *Anne D v Raymond D*, 139 Misc2d 718 (NY Sup 1988).
184. *Doe v Doe*, 136 Misc2d 1015 (NY Sup 1987).
185. *Doe v Estate of Frank W. Silva*, 2d Jud Dist Ct, Nev; AIDS Lit Rptr 01/27/89.

B. Child Custody and Parental Rights

186. *Stewart v Stewart*, 521 NE2d 956 (Ind App 4th Dist 1988).
187. *Doe v Roe*, 139 Misc2d 209 (NY Sup 1988).
188. *In re Marriage of Lena Roe v Leslie Roe*, Cir Ct Cook Cty, Ill 07/20/88; NGRA, Chic Daily Law Bulletin 05/16/88, p3.
189. *Jane W. v John W.*, 519 NYS2d 603 (Sup Ct Kings Cty 1987).
190. *Roe v Doe*, Montgomery Cty Cir Ct Md.
191. *Crawford v Crawford*, Cir Ct Highland Cty, Fla, 10th Jud Cir; ACLU 1987.
192. *Wallace v Wallace*, Super Ct San Bernardino Cty, Cal; AIDS Lit Rptr 10/28/88.
193. *In re Smalley*, No. 83-112, Domestic Relations Ct, Muskingum Cty, Ohio; LAMBDA.
194. *Doe v Doe*, No. 7805040, Cir Ct Cook Cty, Ill 1987
195. *JR v LR*, Cir Ct St Louis Cty, Mo 1986.
196. *In re Marriage of Grein*, 491 NE2d 1382 (Ill App 1st Dist 1984).

C. Paternity Suits

197. *Albany Cty Dept of Soc Serv on Behalf of Sousis v Seeberger*, 112 AD2d 674 (NYAD 3 Dept 1985).
198. *M on Behalf of S v R*, 127 Misc2d 931 (NY Fam Ct 1985).

X. Confidentiality

A. The Media

199. *Anderson v Strong Mem Hosp*, 531 NYS2d 735 (1988), *aff'd*, 542 NYS2d 96 (1989).
200. *Tristate Publ v Port Jervis*, 523 NYS2d 954 (Sup Ct 1988).
201. *Yeste v Miami Herald Publ*, 451 So2d 491 (Fla App 3rd Dist 1984).
202. *Lindzy v South Bend Tribune*, Cir Ct, Stark Cty, Ind; AIDS Lit Rptr 05/27/88.

B. Unauthorized Disclosure

203. *Morales v Vasiliadis*, ED Pa 1988 USDC LEXIS 11311.
204. *People v Toure*, 523 NYS2d 746 (Sup Ct 1988).

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205. *Urbaniak v Newton*, Super Ct No. 87-0679, San Fran Cty; ACLU.
206. *Drug Addiction Serv v Doe*, 1st Cir Ct Hawaii; LAMBDA.
207. *Huse v Sims*, Tex Dist Ct 12/21/87; AIDS Lit Rptr.
208. *In re Doe v Westchester Cty Med Ctr*, NYS Dept of Health 12/09/88.
209. *Anon v Baughman*, Cir Ct Baltimore, Md; AIDS Lit Rptr 12/28/87.
210. *In re Worcester Hosp*, Mass Super Ct, Suffolk Cty; Boston Globe 09/24/87, p25.
211. *Kautz v Orizondo*, 9th Jud Cir Ct, Fla; AIDS Lit Rptr 05/27/88 and 01/29/88.
212. *Dorsey v Nat'l Enquirer*, Cal Super Ct LA Cty, 12/27/88.
213. *Rodney v LA Cty, Univ of So Cal Med Ctr*, Cal Super Ct LA Cty; ACLU.
214. *Doe v Wash Univ*, Mo Cir Ct, St Louis; AIDS Lit Rtpr 03/10/89.
215. *Doe v Borough of Barrington*, NJ; AIDS Lit Rptr 07/29/88.
216. *Penn v Doe, Nurse and Mercy Hosp*, Ct of Common Pleas, Lackawanna Cty, Pa; AIDS Lit Rptr 01/13/89.
217. *Burton v Yeager*, Pa Ct Common Pleas, Buck Cty, Civ Act No. 87-00287; ACLU 1987.
218. *Levias v Shostack*, Ariz Sup Ct, Maricopa Cty, CV 87-34860.

C. Power or Duty to Disclose: The Right to Know

219. *Trudup v Mayer*, 16th Cir Ct Monroe Cty, Fla; AIDS Lit Rptr 05/13/88.
220. *State Dept of Health v Wells*, 1989 Ala Civ App LEXIS 290, 09/07/89.
221. *Doe v Prime Health, Kansas City*, Dist Ct Johnson Cty, Kan Civ Ct 05/17/88.
222. *Funeral Serv by Gregory v Bluefield Comm Hosp*, Cir Ct WVa Mercer Cty; AIDS Lit Rptr 07/29/88.
223. *People v Julius*, Mun Ct San Fran, Cal, Ct No. 761210, 06/28/85; NGRA.

XI. Special Populations: Prisons

A. State's Duty to Protect Guards and Inmates

1. Testing, Screening, and Segregation

224. *Cameron v Metcuz*, 705 F Supp 454 (ND Ind 1989).
225. *Ramos v Lamm*, USDC, Colo Civ Act No. 79-C-1093 03/28/89.
226. *Holt v Norris*, 871 F2d 1087 (6th Cir Tenn 1989).
227. *Glick v Henderson*, 855 F2d 536 (8th Cir 1988).
228. *Jarrett v Faulkner*, 662 F Supp 928 (SD Ind 1987).
229. *Mitchell v Fox*, USDC Neb; AIDS Lit Rptr 07/15/88.
230. *Telepro v Fauver*, USDC NJ; AIDS Lit Rptr 02/12/88.
231. *Hook v Fauver*, USDC NJ; AIDS Lit Rptr 02/12/88.
232. *Brown v Owens*, 1988 WL 71296 (ED Pa 1988), *aff'd*, 877 F2d 53 (1989).
233. *Jezick v Frame*, 1988 WL 2045 (ED Pa 1988).
234. *Brown v DE Cty Prison*, 1987 WL 13335 (ED Pa 1987).
235. *Muhammad v Frame*, 1987 WL 16889 (ED Pa 1987).
236. *Foy v Owens*, 1986 WL 5564 (ED Pa 1986).
237. *LaRocca v Dalsheim*, 120 Misc2d 697 (NY Sup 1983).
238. *Feigley v Jeffes*, 522 A2d 179 (Pa Cmwlth 1987).
239. *Maddox v Goode*, 1989 WL 17544 (ED Pa 1989).
240. *Harris v Thigpen*, MD AL; ACLU, Nat'l Prison Proj.
241. *Hensley v Hopkins*, USDC Md, No. JFM 88-823, 03/22/88; Nat'l Prison Proj.
242. *Morris v Hopkins*, USDC Md; AIDS Lit Rptr 03/11/88.
243. *Policeman's Benevolent Assn, Local 1105 v NJ Corr Dept*, NJ Super Ct; AIDS Lit Rptr 01/15/88.

2. Disclosure of HIV-Positive Test Results

244. *Doe v Coughlin*, 697 F Supp 1234 (NDNY 1988).
245. *State Dept of Corr v Del Pub Employees Council 82, AFSCME*, 1987 WL 5179 (Del Ch 1987).
246. *MD Corr Ofcrs Assn v Hopkins*, Cir Ct, Wash Cty, Md; AIDS Lit Rptr 07/29/88.

B. Civil Rights of Inmates

1. Privacy and Confidentiality

247. *Moenius v Stevens*, 688 F Supp 1054 (D Md 1988).
248. *Baez v Rapping*, 680 F Supp 112 (SDNY 1988).
249. *Woods v White*, 689 F Supp 874 (WD Wis 1988).
250. *Doe v Passio*, 1988 WL 16978 (ED Pa 1988), *aff'd*, 860 F2d 1074 (3d Cir 1988).
251. *Lipinski v Skinner*, 700 F Supp 637 (NDNY 1988).
252. *Doe v Col Cty*, Wis Cir Ct, Col Cty, No. 88CV477; ACLU, Nat'l Prison Proj.
253. *Doe v Ohnesorge and Guzman*, Wis Cir Ct, Col Cty Case No. 87CV612 09/22/87; ACLU.

2. Testing

254. *People, Ryan v McGreevy*, 514 NYS2d 622 (Sup Ct 1987).
255. *Haywood Cty v Hudson*, 740 SW2d 718 (Tenn 1987).
256. *People v Thomas*, 139 Misc2d 1072 (NY 1988).

3. Screening and Segregation

257. *Doe v Meachum*, No. H-88-562 (PCD) (JGM), 05/16/89; Nat'l Prison Proj.
258. *Muhammad v Carlson*, 845 F2d 175 (8th Cir 1988).
259. *Judd v Packard*, 669 F Supp 741 (D Md 1987).
260. *Roe v Fauver*, 1988 WL 47359 (D NJ 1988).
261. *Cordero v Coughlin*, 607 F Supp 9 (SDNY 1984).
262. *Alston v US Dept of Justice*, USDC, 1989 LEXIS 9222.
263. *Powell v Dept of Corr*, 647 F Supp 968 (ND Okla 1986).
264. *Lewis v Prison Health Serv*, 1988 WL 95082 (ED Pa 1988).
265. *Muhammad v Phil*, 1988 US LEXIS 1368 (ED Pa).
266. *Gates v Deukmejian*, 1988 WL 92568 (ED Cal).
267. *Cornelius v Eddins*, USDC ND Fla, PCA 87-30017-WS, 01/13/87.

4. Inadequate Medical Treatment

268. *Thagard v Cook Cty*, 1985 WL 1495 (ND Ill).
269. *Feigley v Fulcomer*, 1989 US Dist LEXIS 9913 (MD Pa).
270. *Smith v Meachum*, USDC, Conn No. H-87-221 (08/89).
271. *McDuffie v Rikers Isl Med Dept*, 668 F Supp 328 (SD NY 1987).
272. *Hawley v Evans*, USDC ND Ga, 1989 LEXIS 7752.
273. *Lopez v Coughlin*, 139 Misc2d 851 (NY Sup 1988).
274. *NY (Ortiz) v Koehler*, NY Sup Ct, NY Cty 10/20/87; ACLU.
275. *NY (Ortiz) v Koehler*, NY Sup Ct, NY Cty, No. 46492/87 10/29/87; ACLU.
276. *Brown v Ariz Dept of Corr*, USDC Ariz Civ 85-2709, Phx PGR (MM), 09/11/86; ACLU.
277. *Lind v Phil*, ED Pa; AIDS Lit Rptr 12/23/88.
278. *Bithell v Navarro*, USDC SD Fla, Case No. 86-6944-CIV-Gonzalez, 05/03/88; Nat'l Prison Proj.
279. *ACLU v Cal Dept of Corr*, USDC ED Cal 01/06/88; AIDS Lit Rptr 01/15/88, p305.

5. Conjugal Rights

280. *Doe v Coughlin*, 521 NE2d 446 (1988).

6. Participation in Work Programs

281. *Howard v Slansky and Sumner*, USDC Nev; AIDS Lit Rptr 03/25/88.
282. *Williams v Sumner*, 648 F Supp 510 (D Nev 1986).
283. *Doe v Lynaugh*, USDC SD Tex, Hous Div, No. H-88-2960, 09/04/88.

7. Malicious Labeling of a Person as Infected With HIV

284. *Fenton v Phil*, 1986 WL 10560 (ED Pa 1986), *aff'd*, 862 F2d 307 (3d Cir 1988).
285. *Torrez v Phil PD*, 1986 WL 10553 (ED Pa 1986).

C. Miscellaneous

286. *Traufler v Thompson*, 66[illegible] F Supp 945 (ND Ill 1987).
287. *Storms v Dept of Corr Serv*, 1986 WL 4704 (SDNY 1986).

XII. Special Populations: Military

A. Discrimination

288. *Aviles v USA*, 696 F Supp 217 (ED La 1988).
289. *Doe v Lehmann, Sec'y of the Navy*, 1989 WL 14337 (MD Fla 1989).
290. *Plowman v US Dept of the Army*, 698 F Supp 627 (ED Vir 1988).
291. *Doe v Ball*, 1989 WL 144337 (MD Fla 1989).
292. *US v Johnson*, 27 MJ 798, *rev granted in part*, 28 MJ 338 (1989).
293. *Doe v Marsh*, USDC DDC, No. 89-1383, 05/15/89.
294. *Soloman v Gerard*, USDC Dist of NJ, No. 88-3448 (JWB) 10/05/88; Army Ofc of the Judge Adv Gen.
295. *In re Ponchak*, NYS Dept of Labor, Unemploymnt Ins App Bd No. 388, 405, 10/05/88; Army Ofc of the Judge Adv Gen.

B. Court Martial: Crime of Transmission of HIV

1. Conduct Discrediting Military Service

296. *US v Woods*, 27 MJ 749 (NMCMR 1988), *aff'd*, 28 MJ 318 (1989).

2. Willful Disobedience of a Superior Commissioned Officer

297. *US v Negron*, 28 MJ 775 (ACMR 1989), *aff'd*, 29 MJ 324 (CMA 1989).
298. *US v Womack*, 27 MJ 630 (AFCMR 1988), *aff'd*, 29 MJ 88 (1989).
299. *US v Sergeant*, 12/03/87; Army Ofc of the Judge Adv Gen.
300. *US v Roantes*, USMC Camp LeJeune, 05/01/89; Corres from Navy-Marine Corps App 06/19/89.

3. Military Assault and Reckless Endangerment

301. *US v Cox*, 1989 WL 76262 (AFCMR).
302. *US v Crawford*, Treasure Isl Cal Naval Air Sta, Mil Judge; Navy Ofc of the Judge Adv Gen 06-14/89.
303. *USAF v Eckert*, McClellan AFB, Cal; AIDS Lit Rptr 1989.
304. *US v Manning*, Army Ofc of the Judge Adv Gen, 1/29/88.
305. *US v Stewart*, ACMR 8702932, 09/09/88; Army Ofc of the Judge Adv Gen.
306. *US v Morris*, 26 MJ 46 (CMA 1988).
307. *US v Grimes*, US Navy-Marine Corps Ct of Mil Rvw 87-4178; Navy Ofc of the Judge Adv Gen.

4. Making False Official Statements

308. *US v Watson*, ACMR 8801038; Army Ofc of the Judge Adv Gen.

C. Blood Transfusion From Military Sources

309. *Valdiviez v US*, USDC WD Tex, Civ Act SA 86-CA-1595, 12/02/86; Army Ofc of the Judge Adv Gen.
310. *Knight v US*, USDC WD Tex, Civ Act SA-88-CA-0874, 07/29/88; Army Ofc of the Judge Adv Gen.
311. *Phipps v US*, USDC WD Tex, Civ Act SA 87-CA-0096, 03/23/87.
312. *Gaffney v US*, USDC Dist of Mass, 88-1457-3, 06/21/88.
313. *MMH v US*, USDC ED Wis, No. 88-C-546, 05/20/88.
314. *Doe v Cutter*, USDC, Hawaii, No. 87-0232, 01/08/88.

XIII. Fear of Exposure

A. Paternity Proceedings

See IX. Family Law, case Nos. 197, 198.

B. Blood Tests

315. *Books v Cmwlth Dept of Trans*, 530 A2d 972 (Pa 1987).
316. *Franko v Comsnr of Pub Saf*, 432 NW2d 469 (Minn App 1988).
317. *McCullough v Pa Dept of Trans*, 551 A2d 1170 (Pa Cmwlth 1988).
318. *Pearson v Cmwlth of Pa*, 551 A2d 394 (Pa Cmwlth Ct 1988).

C. Miscellaneous

319. *Randall v Alcohol Mental Health Assn*, 1986 WL 157 (ED Pa 1986).

XIV. Homeless Persons

320. *Mixon v Phillips*, NY Sup Ct, NY Cty, 01/24/89; NYLJ 01/24/89.

Law and Medicine

Helene M. Cole, MD, *Section Editor*

The AIDS Litigation Project

A National Review of Court and Human Rights Commission Decisions, Part II: Discrimination

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EVERY major government,[1,2] medical,[3,4] public health,[5] and legal[6,7] organization to issue a report on the human immunodeficiency virus (HIV) epidemic has condemned discrimination because it violates basic tenets of individual justice and is detrimental to the public health. Discrimination based on an infectious condition is just as inequitable as discrimination based on race, gender, or handicap. In each case, people are treated inequitably not because they lack inherent ability, but solely because of a status over which they have no control. Complex and often pernicious mythologies develop about the nature, cause, and transmission of disease. As the Supreme Court has recognized, "society's accumulated myths and fears about disability and disease are just as handicapping as are the physical limitations that flow from actual impairment. Few aspects of handicap give rise to the same level of public fear and misapprehension as contagiousness."[8]

Persons infected with HIV have to endure not only archaic attitudes that they present a health menace, but also moral disapproval of their behavior. The public association of the disease with traditionally disfavored groups—homosexuals, intravenous drug users, and prostitutes—only compounds the bigotry.

The Presidential Commission on the HIV epidemic[1] concluded that "discrimination is impairing this nation's ability to limit the spread of the epidemic." The absence of adequate safeguards against discrimination undercuts the US Public Health Service strategy of early identification of persons infected with HIV.[9] Case identification (testing, reporting, and partner notification) is of growing importance as the benefits of early intervention become clearer. Fears that there will be a breach of confidentiality and subsequent discrimination may discourage individuals from cooperating with vital public health programs.

No studies have yet revealed the scope and kinds of discrimination that have occurred since the beginning of the HIV epidemic. This article reviews 149 cases of discrimination described in complaints, legal briefs, settlements, and decisions by courts and human rights commissions. It also reviews major reports from federal[10] and municipal[11-13] antidiscrimination agencies, as well as independent policy analysts.[14,15] Together, these data provide a comprehensive picture of past, current, and potential future patterns of discrimination.

LEGISLATION PROHIBITING DISCRIMINATION

Legal protection against discrimination toward persons with communicable disease did not emerge until remarkably recently. Existing safeguards are based on legislation for the handicapped, despite the absence of any mention of infectious disease in the congressional debates.[16]

The federal Rehabilitation Act of 1973, section 504, patterned after title VI of the Civil Rights Act of 1964, requires that "no otherwise qualified individual . . . shall solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. . . ."[17]

Handicap is construed very widely to include a broad range of physical and mental disabilities "which substantially limit . . . a person's major life activities."[18] The courts have consistently found that all stages of HIV disease, including the acquired immunodeficiency syndrome (AIDS) [15], AIDS-related complex, and asymptomatic infection [84], are handicaps that are protected under the Rehabilitation Act. (Numbers in brackets refer to the Compilation of Cases at the end of the article.)

A person is handicapped if he or she has a "record" of or is "regarded" as being disabled or is perceived to be disabled, even if there is no actual incapacity at all.[19] Thus, an individual who has engaged in high-risk behavior but is not actually infected with HIV is also protected under the act.

A handicapped person must be "otherwise qualified," which means that he or she is capable of meeting all of the performance criteria for the particular position, service, or benefit. There is, moreover, an affirmative obligation to provide "reasonable accommodation" if it would enable the person to meet the performance criteria.[20] The courts have held that accommodation is not reasonable "if it either imposes undue financial and administrative burdens" or requires "fundamental alteration in the nature of the program."[18]

The Supreme Court in *School Board of Nassau County Florida v Arline*[8] held that persons with infectious disease are "otherwise qualified" for employment if they do not pose a "significant risk" of communicating the disease. The court adopted guidelines formulated by the American Medical Association to determine significant risk, including an assessment of the mode of transmission of the infection, the duration of contagiousness, the severity of the harm to third parties, and the probability the disease will be transmitted. The court emphasized that the law is carefully structured to replace reflexive reactions to actual or perceived handicaps with actions based on reasoned and medically sound judgments. A 1988 amendment to section 504, enacted as part of the Civil Rights Restoration Act,[21] was intended to follow *Arline*.[22-24]

The overriding problem with the Rehabilitation Act is its limited coverage. The act applies only to programs that receive federal financial assistance and does not reach into the purely private sector. The Fair Housing Amendments of 1989 are the first federal statutes to extend protection for people with disabilities to private landlords and owners, whether or

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not they are in receipt of federal funds. This act prohibits discrimination against people infected with HIV in the sale or rental of dwellings [63].

The US Congress is on the verge of enacting the Americans With Disabilities Act, the most sweeping civil rights measure since the Civil Rights Act of 1964 with respect to handicapped people. For the first time, it will comprehensively extend antidiscrimination protection for people with disabilities, including HIV infection, to the private sector in employment, public accommodations, transportation, and public services.

All states also have handicap statutes, all but four of which prohibit discrimination in the private, as well as the public, sector. In more than half the states, courts, human rights commissions, or attorneys general have formally or informally declared that handicap laws apply to AIDS or HIV infection.[15,25] Courts have reasoned that state handicap statutes closely follow the federal civil rights approach and should cover HIV as a protected handicap [16,18].

To reinforce the importance of safeguarding persons infected with HIV from discrimination, many states and municipalities have enacted AIDS-specific antidiscrimination statutes.[15,26]

Discrimination based on an immutable condition like infection should be so repugnant in our society that it is unconscionable to leave it to the inconsistencies and vagaries of the current legal system; states where people infected with HIV need greatest protection may afford the least.

This article will review the major areas of discrimination currently being litigated—education, employment, housing, insurance, and health care.

EDUCATION

From the earliest times of the HIV epidemic, exclusion of schoolchildren infected with HIV from their classrooms was an issue debated with great emotion. Parents of children infected with HIV sued school boards for denying children state education [13], giving homebound instruction [3,4,12], or making the child wait for inordinate periods while the board developed a policy [9]. In other cases, HIV-infected children were permitted to attend school, but they were clearly singled out as different by being placed alone in a separate "modular" classroom [4], by being required to use a separate bathroom and to be accompanied by an adult on all field trips [14], or even by being isolated inside a glass booth [1].

Some school board policies, perhaps reasonably, required disclosure of the child's identity to the school district, faculty, and staff [3]. Others revealed the child's identity throughout the school or even publicly announced to the entire community that the infected child had been admitted to the school [2].

Parents who challenged decisions to exclude their children from education at school relied on the Rehabilitation Act, which applies to most schools because of their receipt of federal funding [3], and the federal Education for All Handicapped Children Act,[27] which gives all school-aged handicapped children the right to a free public education in the least restrictive environment appropriate to the case [1,6].

The courts have not tolerated decisions to exclude HIV-infected children from ordinary schools [3-5,7,9]. The courts even found it unlawful to exclude a kindergartner who bit another child and was labeled "aggressive" by the school psychologist [8].

Courts that have safeguarded the right of HIV-infected children not to be discriminated against in their school placement have, nonetheless, required the school, parents, and child to comply with specified safeguards [3,7,8]. These have included stringent compliance with Centers for Disease Control guidelines[28] for HIV-infected children, requiring that sores and lesions are covered, and that high standards of personal hygiene are maintained; children have been denied the right to participate in curricular or extracurricular contact sports, and frequent physical examinations have been required. Some courts have gone further and required sexual and drug education for students, parents, and even the entire school system [7,13].

In cases in which the school board believed there was some behavioral or medical reason not to fully integrate the child, some courts have delineated a fair procedure for deciding the case that includes parental and medical participation [13].

Most courts have required full integration without any visible barrier between the child and his or her classmates. To do otherwise, the courts reasoned, would cause irreparable emotional and psychological harm to the child [3,4,7]. However, a federal district court mandated a "safeguard" that stigmatized the child, perhaps more than exclusion from school [1]. The court ordered the school board to construct a cubicle in the classroom with a large picture window to allow sound from the outer area to be heard. The cubicle, to be sure, allows the child to be in the classroom and avoids the already remote risk of transmission. However, it provides a visible symbol of separation of the child from the rest of her class. The Court of Appeals subsequently vacated the district court decision, holding that the child must be placed in the least restrictive environment that would allow her to attend school.

The most difficult cases involve decisions to exclude students from educational settings where they may be inherently more likely to cut themselves and expose others to their blood.[29] Illustrative cases involve a dental student excluded because the course of study required performing invasive procedures such as tooth extractions [122] and exclusion of a student from a medical assistant program [116].

EMPLOYMENT

The complaints reviewed by courts and human rights commissions provide insight into the kinds of employment disputes that have occurred since the start of the epidemic: dismissal without medical evidence [51,55], notice [28], or a hearing [16,18]; demotion to positions of lower experience and skill such as an experienced teacher demoted to an administrative role [15], a fire fighter to a janitor [32], or a finance manager to a car salesman [49]; denial of insurance benefits to pay for AIDS-related expenses [36,49]; reduction in salary [31]; harassment [39]; and a dishonorable discharge from the National Guard because the serviceman refused a reduction in rank solely because he was infected with HIV [52].

Cases were clustered in three areas that account for the majority of employment disputes: (1) health care workers [47,48,117,118]; (2) workers who provide human services for children, such as teachers [15,35,58,59], foster parents, and day-care workers [34,50]; and (3) food handlers [21,27,37,41].

Adverse employment decisions did not appear to be based on an assessment of the person's ability to do the job. Subtle abilities to do complicated or safety-oriented tasks were rarely an issue. Indeed, a number of adverse employment decisions were based on rumor [27,54] or innuendo [37] that the person was infected with HIV, on short absences caused by pneumonia or on the appearance of loss of weight [44], or on refusal to be tested for HIV [53] or to disclose the results of a test taken at an anonymous site [34]. Employees were dismissed despite the fact that their work record merited regular salary increases [30] and they had been honored for "outstanding" work [56] or had "exemplary" work records [52].

Employers have given many reasons for their decisions, including picketing the establishment [45], a threat of violence to the infected worker [22], adverse publicity when an employee appeared on television as an AIDS advocate [48], or

108

a need to protect their business interests [43], such as a significant increase in insurance premiums because an employee was known to have AIDS [29].

Virtually all courts have held that a positive HIV test result or a diagnosis of an HIV-related disease does not provide a sufficient basis for unfair treatment by employers [15,16,18] or their agents [21]. If a person infected with HIV is capable of doing the job with reasonable accommodations, then discrimination is prohibited. The employers' decisions, moreover, must be based on reasonable medical judgments [18].

HOUSING AND PROPERTY

People infected with HIV have been denied equal opportunity in the purchase or leasing of housing because of an erroneous belief that they pose a health risk and because they make nonhandicapped people uncomfortable [63]. The factual pattern of complaints brought under this legislation by persons infected with HIV is varied: evictions from housing [68], rescission of a contract to buy because the previous owner had AIDS [65], locking out an infected tenant, and harassment or assault [73].

Numerous cases before human rights commissions involved evictions from premises because a person with AIDS missed monthly rent payments. One court refused to "add to the tenant's misery and suffering" by allowing the eviction [68]. Other cases involved tenants with HIV disease whose health was being affected by landlords' refusal to repair broken plumbing, heating, or other basic services in the building [72,74].

When courts or human rights commissions have applied handicap law to housing discrimination, they have usually afforded relief [65,68,73]. Courts have extended this protection to those perceived to be, but not actually, infected with HIV, including a mother and sister of a person with AIDS who were evicted [71] and the eviction of a homosexual because of the fear of AIDS [72]. It is reasoned that to discriminate against persons based on a fear that they are infected is contrary to the purpose of civil rights law [64].

Still, serious questions remain about the adequacy of existing law to protect HIV-infected persons from housing discrimination. The courts are split as to whether a "life partner" can be protected [66,67]. When a person with AIDS has in every manner possible made his life partner a member of his immediate family, that partner should be afforded the same rights in law as a spouse [67].

More troubling is the tendency of some courts to rely on contract rather than handicap law. When contract law is used, courts focus on the failure to disclose a person's serological status, thus voiding the housing contract [109]. Other courts have suggested that if housing contracts were clearer in requiring disclosure of a person's medical condition, the property might not have to be sold to a person with AIDS [65]. The federal Fair Housing Act may provide a solution by proscribing contract provisions that require disclosure of a person's HIV status.[8]

Nursing Homes

The federal Office of Civil Rights (Department of Health and Human Services), in an investigation of admissions to residential health care facilities, found a general reluctance to provide services for persons infected with HIV. Hospital discharge planners experienced so many admission denials of AIDS patients that many stopped their attempts to place them in skilled nursing facilities.[10]

State human rights commissions have reported the same difficulty in obtaining admissions to skilled nursing facilities.[24-27] Illustrative cases included a city's refusal to issue a zoning permit for a hospice for terminally ill AIDS patients [63] and a refusal to rent premises for a group home for people with AIDS [69]. Some nursing homes have a fixed policy not to take patients with AIDS, and patients have died before hearings to challenge these rules could be held [100].

Premises for Health Care Professionals

Professionals who provide health care or social services for persons with HIV disease sometimes have found themselves to be the object of housing discrimination. Examples include the eviction of a dentist who listed his name with the Gay Men's Health Crisis to provide services for AIDS patients [101], refusal to sell property to a social services group who would be serving clients with AIDS [112], or preventing physicians from moving into an apartment after contracts were signed when the landlord discovered they would be treating persons with AIDS [110].

The courts have protected health care professionals who are not themselves handicapped, but who are trying to provide vital services for those who are [70,111]. When the courts balance the equities of such cases, they consider the "enormous public interests involved," because discriminatory practices "injure society as a whole." If professionals were prevented from serving persons with AIDS, "arguably the group most in need of medical treatment would suffer" [110]. Health care professionals who sought to make their services available to "a needy and discriminated against class and who are thwarted in their efforts" would be protected [111].

PUBLIC ACCOMMODATIONS

The right of persons infected with HIV to receive equal treatment in public accommodations has been an ongoing concern of human rights commissions. Complaints of discrimination in private physician offices have predominated and are discussed below.

The other major grouping of discrimination complaints concern refusals to provide personal services, such as at a nail salon [75,77,82,83], an airline [81], a television studio [79], and a spiritual retreat [78]. Funeral home owners have refused to embalm the body or to allow an open-casket service [49] or have charged inflated fees [76]. Courts and human rights commissions have ruled that the protection afforded by handicap legislation persists after death [76].

INSURANCE

There is an irresolvable conflict between standard insurance underwriting and nondiscrimination principles. Health and life insurance policies are written after an assessment of the applicant's risk. The industry objective is to discriminate against those with higher risk by charging higher premiums, placing a cap on expenses covered [147], or refusing to write the policy [137]. If the actuarial principles of the insurance industry are fully accepted, then it follows that persons infected with HIV will be treated differently because of the undoubtedly higher risk they incur. The increased risk of HIV infection is greater than the risk associated with smoking, high blood pressure, or other conditions that are taken into account by insurers. The industry, therefore, regards persons infected with HIV as uninsurable,[31] and they do not view this as unlawful discrimination [131].

Insurance underwriting, however, is not merely a business, particularly when it provides health coverage. Public policy favors the provision of decent health care for all persons suffering from serious illness. The consequence of systematic refusal to insure persons infected with HIV is that the financial burden shifts to public hospitals, which must care for patients without compensation. Many hospitals that serve large numbers of low-income persons with AIDS have encountered moderate to severe financial shortfalls because of the lack of private health insurance coverage.[32] The most advantageous policy would share the health costs equitably among the government, private insurers, and employers.

Several states have sought to regulate the insurance industry by limiting the use of HIV testing in making decisions about insurability. The intention is to ensure that the industry assumes its fair share of the burden of health care costs. The courts, however, have been highly suspect of such regulation. The Massachusetts Supreme Judicial Court held that the insurance commissioner had no statutory authority to prohibit insurers from using HIV tests in making underwriting decisions regarding health insurance. The court reasoned that the commissioner cannot interfere with an insurer's ability to assess risk [135]. A New York court also limited the regulatory power to require insurers to offer insurance without regard to proved actuarial factors [136].

A federal district court did uphold a Washington, DC, statute that proscribed the use of any HIV test for the purposes of issuing insurance or adjusting rates or premiums [131]. The court, however, suggested that the law may well be "inequitable" or "unwise." It also based its decision largely on the unreliability of HIV antibody tests, an argument that may not be valid today.

HEALTH CARE

The HIV epidemic has transformed perceptions about the hazards involved in the practice of medicine, nursing, and associated fields.[33] Documented cases of occupational transmission of HIV have demonstrated that health care professionals can contract their patients' lethal infections.[34] As a result, AIDS is increasingly being viewed as an occupational disease for health care professionals, despite the evidence that HIV is exceedingly hard to transmit in health care settings. The litigation reviewed in this section examines the duty to treat patients with HIV disease, access to experimental treatments, and the rights and responsibilities of HIV-infected health care professionals.

The Health Care Providers' Duty to Treat

Health care professionals have an ethical duty to provide treatment for persons infected with HIV.[35,36] The training, licensure, and professional purpose of health care professionals require that decisions are based on a good-faith clinical assessment of benefit and harm to the patient, and not on the basis of the patient's handicap. The risks to health care professionals who take rigorous precautions against contracting infection, moreover, are remote and do not justify deviation from this professional obligation not to discriminate.[35] Certainly, the vast majority of health care professionals provide dedicated and equal treatment for all of their patients.[37] However, this survey recounts many cases where treatment has been withheld from patients infected with HIV. The survey also suggests that courts will legally enforce the professional obligation to treat HIV-infected patients [84,88,89].

The litigation illustrates the harm that can result from treatment refusals, such as a decision to leave a clinically depressed woman unattended in a room where she could lock the door and take an overdose of pills [94], a refusal to perform a routine hernia operation,[38] intentionally dropping a gurney after hearing that the person was infected with HIV [97], or a delay in responding to an emergency call that resulted in aggravated brain injury [100]. In some cases, patients allege that excessive force was used [94].

Discriminatory practices may not always cause physical harm, but they show a lack of respect, empathy, and care that is inexcusable. Patients should not be placed in isolation except in rare circumstances when their medical condition requires it [94,103,104]. There is no adequate public health justification for refusing to administer medications or alter a chest drain [104], for leaving food trays outside the door [104], or for excluding the patient from patient activities, including use of the telephone or other hospital amenities [103].

While few health care professionals would condone blatant treatment refusals that cause harm or result in insensitive treatment of patients, some practices are far more subtle, so it is often difficult to distinguish between the valid exercise of clinical judgment and a disguised form of prejudice. Physicians are defending their decisions not to treat, or to refer, HIV-infected patients by arguing that this is an exercise of clinical judgment and does not constitute discrimination, and that restricting the physician's right to decide whom to treat or when to refer is to dictate the practice of medicine [102].

It is true that the physician-patient relationship is not easy to regulate by law and that courts must grant due deference to the good-faith judgments of responsible health professionals [87]. Still, the physician's exercise of clinical judgment cannot render all treatment refusals or referrals immune from review if there is evidence to show they were motivated by prejudice [88].

Consider, for example, physicians' claims in court that they have insufficient expertise to treat any person with AIDS [87,127]. Certainly, there are some manifestations of HIV disease that require more specialized knowledge. However, all physicians are held by law to have a level of expertise commensurate with the standard that prevails in their specialty. As HIV disease becomes more prevalent, primary practitioners such as general internists [87] or dentists [88] must be trained in the diagnosis and treatment of HIV disease, with referral where indicated. Specialists such as surgeons,[39] nephrologists [93], and allergists [92] also need to be able to provide services for persons infected with HIV. Failure to maintain basic skills in relation to one disease may be grounds for revocation of a physician's license. A decision not to treat any patient infected with HIV [96,98] or a refusal even to make a referral[38] is likely to be viewed by the courts as medically unjustified and based on irrational fear or prejudice [102].

Another reason given for refusing to treat patients infected with HIV is a concern about occupational hazards. Legal and ethical obligations of health care professionals require them to endure reasonable risks, for example, where treatment is necessary to save or prolong life [93]. But some health care professionals take a different view when the treatment is elective [92,98] or even cosmetic [107]. The question then becomes whether patient X should receive different treatment from patient Y, not because of clinical differences but because of a perceived occupational risk to the physician. Professionals sometimes refuse to provide treatment because of inadequate equipment, education, or training for infection control [101,107]. In particular, they claim that the federal occupational safety and health rules permit employees to refuse to perform assigned tasks because of a reasonable apprehension of serious injury [89].

All patients have the right to expect appropriate treatment and that professionals will have available, and will utilize, adequate infection control. When the necessary equipment or training is not available, the proper response is to seek redress from the health care facility and not to turn the patient away [89].

Comprehensive settlements to disputes in this area supervised by the courts [106] and the federal Office for Civil Rights [149] provide models of good practice. They require, among other things, that health care facilities develop policies for nondiscriminatory admission of patients with HIV disease, protect patient confidentiality, and comply with Centers for Disease Control guidelines by providing education, training, and necessary equipment for rigorous infection control.

The courts have found that persons infected with HIV, even if asymptomatic, cannot be discriminated against in the receipt of health care services [84]. Most courts have decided that private medical and dental offices as well as clinics, hospitals, and dispensaries are "public accommodations" and that the medical field is not exempt from the requirement not to discriminate on the basis of handicap [88,98]. However, one court held that a private physician's office is "unique in character" and should not be regulated as a public accommodation [87].

It is conceivable that courts may be more likely to uphold discriminatory practices in the future when there is the potential for significant exposure to blood. Pending cases that raise this question involve dialysis units [93,124].

The professional obligation to treat patients who can clearly benefit must extend to all health professionals, including those in private offices and situations where there may be exposure to blood. To exempt certain professionals from the obligation to provide nondiscriminatory treatment to patients infected with HIV would jeopardize the health of those most in need of medical attention. It would also unfairly shift the burden from physicians who choose to opt out to those dedicated to providing care without prejudice.

Access to Innovative Treatments

The HIV epidemic has revitalized a perennial debate about whether there is legal right of access to experimental or innovative treatments for hopelessly ill patients.[39] Traditionally, the law will not provide an enforceable entitlement to particular medical services unless they are necessary in an emergency.[40] The health care provider may not discriminate on the basis of a patient's serological status. What if the refusal to treat does not involve discrimination, however, but is based on a valid clinical, research, or financial consideration?

Persons with AIDS claim the right to unimpeded access to innovative pharmaceuticals approved by the federal Food and Drug Administration, including the right to adequate financing. Patients with AIDS have successfully sued both the state [85] and hospitals [86] for rationing their access to zidovudine (formerly known as azidothymidine [AZT]) and aerosolized pentamidine isethionate on the grounds of inadequate resources rather than for clinical reasons. The state of Missouri limited medical coverage for zidovudine to recipients who have a history of cytologically confirmed *Pneumocystis carinii* infection or an absolute T4-helper/inducer lymphocyte count of less than 200/cu mm, in accordance with the Food and Drug Administration approval statement. A federal court ordered that Medicaid coverage for the drug must be determined by the physician's assessment that the drug is medically necessary [85].

A court in Texas prohibited a hospital AIDS clinic from using a waiting list to control access to zidovudine and pentamidine, because it violated state public policy that no person be denied medical treatment for fiscal reasons [86].

In the treatment of HIV disease, often the most promising pharmaceuticals are as yet unapproved. The only realistic access to such innovative treatments for hopelessly ill patients may be through participation in a clinical trial. There is no established legal right to experimental therapy. Yet, patients have bitterly disputed decisions to exclude them from clinical investigations. Sometimes the exclusion appeared almost arbitrary, as in the case of a patient who was prevented from continuing in a clinical trial of an experimental drug after arriving late for an appointment [95]. Patients have even contested the discontinuation of a clinical investigation because the preliminary results indicated the drug was ineffective. The patient believed the drug had stabilized his condition [91].

This search for a promising therapeutic intervention vividly illustrates the human anguish of AIDS patients. The potential conflict between patients' human rights of access to unproved pharmaceuticals and valid research goals is powerful. If patients succeed in achieving an ethical or even legal entitlement to unimpeded access to experimental drugs, then the ability of researchers to conduct scientifically sound research could be compromised by a lack of subjects who are willing to participate in controlled clinical trials.

HIV-Infected Health Care Professionals: Testing and Limitations on the Right to Practice

A strong ethical argument can be made that health care professionals who are infected with HIV should be permitted to continue their normal practice, provided they are capable of doing so.[41] The potential harm to patients is negligible if rigorous infection-control procedures are used. The risk of transmission of HIV from health care professional to patient is estimated to be exceedingly low, with no documented case of transmission.[42] The burden on health care professionals if they are denied the right to practice, on the other hand, is considerable.[43] The professional can lose his or her livelihood, and disclosure of information to colleagues and patients can be psychologically harmful.

This relatively straightforward ethical analysis, however, is not reflected in the professional literature or judicial case law. The American Medical Association's ethical position is that a "physician who knows he or she is seropositive should not engage in any activity that creates a risk of transmission of the disease to others."[44] If professionals are infected with HIV, they should consult their physician and employer to determine whether it is safe to continue to practice.[2]

The American Medical Association position that opposes *any* risk to patients is exceedingly harsh. That standard could well require hospitals to place some limits on the right of an HIV-infected professional to practice. The guideline to consult the professional's physician and employer begs the question, for there is no indication as to the circumstances that might warrant limitations on the right to practice. One rational standard, for example, would be to allow the professional to practice normally (with supervision and careful infection control), but to avoid the performance of invasive procedures where blood exchange is possible.

The problem with the American Medical Association's ethical position that any risk must be avoided is that it could be used by the courts to set an enforceable legal standard of care. Failure of hospitals or health care professionals to comply with that standard could result in liability. In fact, there are a growing number of cases in which hospitals, clinics, and group practices are summarily excluding health care professionals infected with HIV, purporting to respond to ethical guidelines [122]. More worrisome is the argument that if it is ethically wrong for infected professionals to treat patients, it creates a correlative duty to screen workers.[45] The courts, moreover, have been inconsistent in resolving disputes between health care facilities and their HIV-infected employees.

The contrasting decisions of the federal courts in *Glover* [113] and *Leckelt* [114] illustrate the dilemma. In *Glover* the Eighth Circuit Court of Appeals found that a decision of a facility for mentally retarded persons to screen staff members who are in direct contact with patients is unconstitutional. The basis for the policy was the hospital's concern about clients who bite or scratch staff and become exposed to their blood. The Court of Appeals upheld the district court's view that the risk to patients was low, "approaching zero." Courts

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[125] and human rights agencies [128] have also held that it is unlawful discrimination for a hospital to refuse repeatedly an HIV-infected nurse's request to return to work. In one case, the hospital even refused the nurse's offer to be transferred to working in the supply room [128].

The federal district court in *Leckelt* took a very different view of a decision by a clinic to dismiss a nurse after he refused to disclose the results of an HIV test conducted at an anonymous test site. The nurse had been previously treated for syphilis, and he was a chronic carrier of hepatitis B virus. The court held that the nurse was not discriminated against because disclosure of the test result was the necessary first step in safeguarding the security of patients.

Health care facilities support their decisions to dismiss or limit the practice of infected health care professionals on public health, ethical, and economic grounds. They suggest that the prospect of transmission of HIV during a professional career of performing invasive procedures is a real risk: "gloves cannot prevent penetrating injuries by needles or other sharp instruments," such injuries are common, and the consequences of infection of patients are severe [122]. They also argue that there is an ethical obligation not to permit any known risk of transmitting HIV infection to patients [122]. Some hospitals do not rely on the risk of transmission but on the economic hardship they would suffer if they knowingly continued to employ a professional infected with HIV. The perception is that the public would refuse to be treated in a facility known to have infected professionals on its staff [121].

The impact of hospital policies on HIV-infected health care professionals has been significant. A nurse was subjected to "full isolation procedures" at the hospital of his employment, wherein his colleagues were "fully masked, gowned and gloved" while in his presence [119,126]; a director of anesthesiology was denied contact with patients and was then disciplined when he personally assisted a patient who had vomited and was in immediate danger of aspirating [120]; a gynecologist was forced out of a lucrative medical partnership despite his offer to do no "hands on" work [123]. Even health care professionals who contracted HIV from occupational exposure have been dismissed or penalized by the hospital where the exposure took place [124,125].

Thoughtful resolutions of the rights and duties of HIV-infected health care professionals have been ironed out in court-approved settlements. These settlements have characteristically permitted health care professionals to continue to practice but to be limited in the performance of seriously invasive procedures. The settlements have also required health care professionals to use rigorous infection-control procedures at all times and to allow for regular medical examinations and supervision by their physician and the hospital [125]. In addition, settlements have required the health care facility to provide special training for the infected professional [116] and education for all personnel [117].

CHANGES AND TRENDS IN THE PATTERN OF DISCRIMINATION

Human rights commissions report that, early in the HIV epidemic, employment discrimination was "systemic," meaning that the problem was "company or industry wide, that a tacit or written policy existed which would adversely affect any person with AIDS who came into contact with the policy" [149]. However, complaints of discrimination and cruel behavior have since been significantly reduced where employers introduced AIDS education programs in the workplace.

The same changing pattern of discrimination is apparent in education, housing, and public accommodations. Traditional forms of discrimination, such as exclusion of children from school, refusal to rent or sell property, or refusal to provide personal services, are declining.

Complaints about discrimination in health care, nursing, and social services have predominated in recent years, and this trend is likely to continue. Major issues to be faced in the coming years will involve admission of HIV-infected students to medical and dental schools; employment of HIV-infected health care workers, particularly those performing invasive procedures; and access of HIV-infected patients to nursing homes, hospitals, private medical and dental offices, and other health care facilities.

There are many reasons for the changing complexion of discrimination since the beginning of the HIV epidemic. Most important, public opinion surveys show that the overwhelming majority of respondents understand the primary modes of transmission of HIV.[44] Attitudes toward persons at high risk of HIV, while initially hostile,[45] are softening. Educational programs designed to achieve greater acceptance and tolerance of persons infected with HIV have achieved a measure of success.[46]

The shifting pattern of discrimination is further explained by the rapid ethnographic changes in the HIV epidemic.[47] As the epidemic moves from the homosexual community to intravenous drug users, there is a greater propensity that persons with HIV disease will have impeded access to services. Intravenous drug users have traditionally been underserved in the health care systems because of their socioeconomic class and because of the lack of expertise and willingness among many health care professionals to treat drug abuse.

Often the reason for discriminatory practice is not pure prejudice, or even ignorance or irrational fear. Rather, exclusion of HIV-infected persons is intended to eliminate all risk of infection through exposure to blood. This helps explain why health care and emergency services have become the new focal points for discrimination. But health care and emergency service providers should recognize that they cannot expect to eliminate all risk. Provided that strict infection-control procedures are used, occupational risks should remain within acceptable limits.

Discrimination is also fueled by financial concerns. Persons with HIV disease can increase costs by driving up insurance premiums or deterring potential customers. Yet, the very purpose of civil rights law is to get beyond the inequities of a market economy and to set standards of equal opportunity that cannot be compromised.[48]

Nondiscrimination for persons infected with HIV is consistent with the prevailing sense of justice in America. With continued AIDS education, rigorous enforcement of handicap law, and increased tolerance of homosexuals and intravenous drug users, discrimination can be reduced and, with it, the public health advanced.

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COMPILATION OF CASES, PART II

A. Education

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2. *Child v Sch Bd Fairfax Cty*, 875 F2d 314 (4th Cir 1989).
3. *Doe v Dolton Elem Sch Dist No. 148*, 694 F Supp 440 (ND Ill 1988).
4. *Robertson v Granite City Comm Unit Sch Dist No. 9*, 684 F Supp 1002 (SD Ill 1988).
5. *Doe v Belleville Sch Dist No. 118*, 672 F Supp 342 (SD Ill 1987).
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12. *Moore v Sch Bd of Manatee Cty*, MD Fla; AIDS Lit Rptr 01/27/89 and 12/23/88.
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B. Discrimination: Employment

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16. *Shuttleworth v Broward Cty*, 639 F Supp 654, 649 F Supp 35, (SD Fla 1986)
17. *Evans v Kornfeld*, Pa Ct Common Pleas, Luzerne Cty, No. 3468-C of 1988; ACLU.
18. *Raytheon v Fair Employmnt and Housing Commsn, Estate of Chadbourne*, 261 Cal Rptr 197 (Cal App 2d Dist 1989).
19. *MAE, Estate of JJE v Doe & Roe*, 586 A2d 285 (Super Ct 1989).
20. *Doe v 315 232 St Corp*, No. 17150-1988, NY Sup Ct, Bronx Cty, 1988; Colum AIDS Law Clinic.
21. *Chapoton v Majestic Caterers and Karageorge*, Cir Ct City of Roanoke, Va; LAMBDA 03/21/88.
22. *Cronan v New Eng Tele*, 41 FEP 1273, Mass 1986.
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24. *Brunner v al Attar*, Dist Ct, Harris Cty, Tex, 295th Jud Dist No. 86-42628; ACLU.
25. *Nieto v Clark, Thomas, Winters and Newton*, Tex Dist Ct, Travis Cty; AIDS Lit Rptr 08/12/88 and 03/10/89.
26. *Ill Dept of Human Rights v Fossett Corp*, Cir Ct, Cook Cty, Ill; AIDS Lit Rptr 02/26/88.
27. *Wolfe v Tidewater Pizza*, Sup Ct of Va 01/88.
28. *Trueman v Camden*, State of Mich, Cir Ct, Wayne Cty 05/16/84.
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33. *Houseknecht v White*, USDC ED Pa Civ Act No. 88-9586; ACLU 12/16/88
34. *Chinchilla v Soc Serv Agency of Orange Cty*, USDC CD Cal, Case No. 8704811, FFF(Kx); ACLU 07/16/87.
35. *Rice v Bloomer*, USDC ED Va, No. 87-162-A; ACLU 02/18/87.
36. *McCormick v Hechinger*, USDC MD; LAMBDA.
37. *Little v Bryce and Randall's Food Market*, 733 W2d 937 (Tex App Hous 1st Dist 1987).
38. *Doe v Sinicola and Sons Excavating*, Oakland City Cir Ct Mich No. 86-320825NZ; ACLU 04/08/87.
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45. *Mosby v Joe's Westlake Rest*, Cal Super Ct, San Fran Cty, No. 865945; ACLU
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55. *Bernabei v Del Cars*, Ill Hum Rts Comm; ACLU.
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61. *N v A Restaurant*, NYC Comm on Hum Rts; Colum AIDS Law Clinic 1989.
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C. Discrimination: Housing and Property

63. *Baxter v Belleville*, 1989 US Dist LEXIS 10298 (SD Ill 1989).
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65. *Kleinfield v McNally, Real Estate*, NY Cty Sup Ct; LAMBDA 07/15/88.
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68. *Clover Ct Realty v Lombardi*, NY Cty Civ Ct 05/09/88.
69. *Whitman Walker Clinic and Thomas v Sibay*, Cir Ct Arlington Cty, Va; LAMBDA.
70. *People v 49 West 12 Tenants Corp*, Sup Ct, NY Cty, No. 43604/83, 08/84; NGRA.
71. *West 22nd St Assc v Thomas and Thomas*, 144 Misc2d 292 (NY Sup 1989).
72. *C v A Landlord*, NYS Div of Hum Rts; Colum AIDS Law Clinic 1988.
73. *Weingarten v Gruenberg*, NYC Comm on Hum Rts; AIDS Lit Rptr 07/15/88.
74. *Note San Fran AIDS Legal Referral Panel (ALRP), AIDS Housing Discrimination Cases.*

D. Discrimination: Public Accommodations and ommercial Establishments

75. *Jasperson v Jessica's Nail Clinic*, 1989 WL 154205 (Cal App 2d Dist).
76. *Dimicelli & Sons Funeral Homes v NYC Comm on Hum Rts*, Sup Ct NY Cty, 01/09/87.
77. *People v Vartoughian*, Beverly Hills Mun Ct; AIDS Lit Rptr 04/14/89.
78. *Gittleson v Jacumba Found*, Super Ct LA Cty, Cal 03/08/89; AIDS Lit Rptr 03/24/89.
79. *Townsend v Post-Newsweek Station*, Mich, Cir Ct Wayne Cty 10/04/85.
80. *Doe v Lacarenza Funeral Home*, Conn Sup Ct, Stamford, No. CV87-0080916S; ACLU 11/09/87.
81. *Cooper, Commsnr v Northwest Airlines*, Hum Rts Dept, Minn; NGRA 09/16/87.
82. *Tema S Luft v The Nail Gallery*; Md Comm on Hum Rts.
83. *Tema S Luft v All That Glitters*; Md Comm on Hum Rts.

E. Discrimination: Health Care

1. Failure to Treat HIV-Infected Patients

84. *Doe v Centinela Hosp*, 57 USLW 2034 (CD Cal 1988).
85. *Weaver v Reagen*, 886 F2d 194 (8th Cir 1989), *affirming*, 701 F Supp 717 (WD Mo 1988).
86. *Dallas Gay Alliance v Dallas Cty Hosp Dist*, 719 F Supp 1380 (ND Tex 1989).
87. *Elstein v State Div of Hum Rts*, Sup Ct, Onondaga Cty; AIDS Lit Rptr 09/09/88.
88. *Hurwitz v NYC Com'n on Hum Rts*, 142 Misc2d 214 (NY Sup 1988).
89. *Stepp v Rev Bd of the Ind Employmnt Sec Div*, 521 NE2d 350 (Ind App 4th Dist 1988).
90. *Mair v Bo[illegible]on*, 705 F Supp 520 (D Kan 1987).
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92. *Doe v Lankenau Hosp*, ED Pa; AIDS Lit Rptr 11/29/88.
93. *Roe v Cumberland Cty Hosp Sys*, USDC ED NC, Case No. 88-62-CIV-3, 06/10/88; ACLU.
94. *Doe v Howard Univ Hosp*, complaint filed.
95. *Bleyenberg v Gustafson and Miller*, Dist Ct, Harris Cty, Tex; AIDS Lit Rptr 04/29/88.
96. *Beardon v Sutter Place Dental Grp*, Sup Ct, San Fran; AIDS Lit Rptr 12/09/88 and 02/24/89.
97. *Johnson v Dist of Col*, Super Ct, DC Civ Div; AIDS Lit Rptr 04/29/89.
98. *Walsh v Cicmanec*, Super Ct San Diego, Cal, 01/31/89; AIDS Lit Rptr 03/10/89.
99. *Brogan v Kimberly Serv*, Super Ct, San Fran, Cal; AIDS Lit Rptr 09/23/88.
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102. *GS v Karim Baksh, DDS*, Ill Hum Rts Comm No. 1987CP0113, 09/26/88; NGRA.
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104. *Doe v St Francis Hosp*, NYS Div of Hum Rts No. 3-P-D-87-123301; Colum AIDS Law Clinic 1987.
105. *B v A Dentist*, NYC Comm on Hum Rts, Colum AIDS Law Clinic 1989.
106. *Levert v SSEU Local 371*, NYC Comm on Hum Rts No. 10286460-PA 04/27/88; NYC Dept of Health.
107. *Whittacre v Northern Dispensary*, NYC Comm on Hum Rts Nos. AU-00015021387, GA-00023030687-DN; ACLU 02/88.
108. *FR v MGH*, Mass Comm on Hum Rts, Doc No. 007-85-SO, 09/28/87.

2. Refusal to Provide Premises to Health Care Professionals

109. *Whitman Walker Clinic v CJ Coakley*, Cir Ct, Arlington Cty, Va; LAMBDA; AIDS Lit Rptr 01/12/89.
110. *Seitzman v Hudson River Assc*, 513 NYS2d 148 (NYAD 1st Dept 1987).
111. *Barton v NYC Comm on Hum Rts*, 531 NYS2d 979 (Sup Ct 1988), *aff'd*, 542 NYS2d 176 (1989).
112. *Action AIDS v Dirot Del and US Realty*, Phil Comm on Hum Relations; AIDS Lit Rptr 09/23/88.

3. HIV-Infected Health Care Professionals

113. *Glover v Easter Neb Ofc of Retardation*, 867 F2d 461 (8th Cir 1989), *cert den*, 110 S Ct 321 (1989).
114. *Leckelt v Bd of Com'rs of Hosp Dist 1*, 714 F Supp 1377 (ED La 1989).
115. *Doe, MD v Cook Cty*, USDC ND Ill, 03/11/88.
116. *Doe v Nat'l Educ Ctr and Strayer*, ED Pa; AIDS Lit Rptr 11/29/88 and 04/29/89.
117. *Galiher v LA Cty*, CD Cal; AIDS Lit Rptr 01/13/89.
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119. *Rhodes v Charter Hosp*, SD Miss; AIDS Lit Rptr 03/10/89.
120. *Mark Bible v Mother Francis Hosp*, USDC ED Tex; ACLU 1987.
121. *Laredo v SW Commnty Health Serv*, USDC NM 08/87; LAMBDA.
122. *Doe v Wash Univ Dental Sch*, Mo Cir Ct, St Louis Cty; AIDS Lit Rptr 12/23/88 and 02/10/89.
123. *Gordon v Blanchard*, Super Ct, LA Cty; AIDS Lit Rptr 05/13/88.
124. *Hartford Hosp Nurses v Hartford Hosp*, Super Ct, Harford, Conn 06/19/87; ACLU.
125. *Dept of Health and Hum Serv v Charlotte Mem Hosp*, ACLU; DHHS No. 04-84-3096 08/05/86, Charlotte, NC.
126. *J v A Med Ctr*, NYS Div on Hum Rts; Colum AIDS Law Clinic 1988.
127. *Doe, RN v NY Hosp*, NYC Comm on Hum Rts; AIDS Lit Rptr 10/28/88.
128. *Dade Cty Fair Housing and Employmnt App Bd, No E-1097*; ACLU 08/87.
129. *Note Health Care AIDS Discrim Cases Handled by the San Fran AIDS Legal Referral Panel*; ALRP Annual Rpts 1987 & 1988.

F. Discrimination: Insurance

130. *KY Central Life Ins v Webster*, 651 F Supp 935 (ND Ala 1986) 841 F2d 397 (11th Cir 1988).
131. *Amer Council of Life Ins v DC*, 645 F Supp 84 (DDC 1986).
132. *Lilley v Protective Life Ins*, 1989 WL 8831 (ED La 1989).
133. *Zachary Trading v NW Mutual Life Ins*, 668 F Supp 343 (SDNY 1987).
134. *Cheney v Bell Nat'l Life Ins*, 527 A2d 331, 1987.
135. *Life Ins Assn of Mass v Commsnr of Ins*, 403 Mass 410 (1988).
136. *Health Ins Assn of America v Corcoran*, 140 Misc2d 255 (NY Sup 1988).
137. *People v HealthAmerica*, Super Ct, San Fran; AIDS Lit Rptr 11/29/88.
138. *Horner v Great Republic Ins*, San Fran Super Ct No. 852522, 01/31/85 Cal; ACLU.
139. *NW Mutual Life Ins v Barth*, USDC SD NY, 85 Civ 8360, GLC; ACLU.
140. *Frantz v Coastal Ins*, Super Ct San Fran, Cal; AIDS Lit Rptr 01/13/89.
141. *NGRA and David Hurilbert v Great Republic Ins*, Super Ct San Fran Cal; AIDS Lit Rptr 10/18/88.
142. *Charon v First Col Life Ins*, Ill Cir Ct, Cook Cty, Chancery Div 06/07/88; ACLU.
143. *Murphy v State Farm Ins*, Super Ct, Alameda Cty, SD Cal; AIDS Lit Rtpr 06/10/88.
144. *Kraemer v Time Ins*, Cir Ct Cook Cty, Ill, Ch 87CH07208 07/23/87; ACLU.
145. *Pinney v Aetna Life Ins*, Sup Ct NY Cty, No. 2828 03/86; ACLU.
146. *Doe v Conn Mutl Life Ins*, Sup Ct Suffolk Cty, Mass No. 88-6453-C; LAMBDA.
147. *Starkey v Arvida Corp*, Fla Comm on Hum Rts; AIDS Lit Rtpr 03/11/88.
148. *NGRA v Health America*, Cal Dept of Corp 11/07/86.
149. *Note: Insurance AIDS Discrimination Cases Handled by the San Fran AIDS Legal Referral Panel*; Annual Rpts 1987 and 1988.

G. Discrimination: Illustrations From Four Civil Rights Agencies

1. Fed Ofc of Civ Rts: Dept of Health and Hum Serv
2. San Fran Hum Rts Comm
3. LA Ofc of the City Atty
4. NYC Hum Rts Comm

THE LEGAL BACKGROUND

Additional Resources

FEDERAL REGULATIONS

Analysis of the federal regulation, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," Appendix A to 45 C.F.R. Subtitle A, Part 84.

Sexual and Needle-Sharing Partner Notification Policy of the Public Health Service, U.S. Department of Health and Human Services, 55 F.R. 21443 (May 24, 1990).

MISCELLANEOUS CASES

Kirkland v. Indiana University, Cause No 49D05-9005-CP-0779 (1990).

> A student in an advanced dentistry program refused to treat HIV-infected patients while she was nursing her new infant. The University found no medical justification for the student's position and terminated her from the program. The trial court upheld the decision of the University.

Glanz v. Vernick, No. 89-0748-MA (D.Mass. 1990).

> The U.S. District Court for Massachusetts ruled that a claim for compensatory damages filed under a claim for compensatory damages filed under Section 504 of the Rehabilitation Act of 1973 may be pursued posthumously if the state law where the case is brought does not abate such claims.

Smith v. Barton, 914 F. 2d 1330 (9th Cir. 1990).

> The Ninth Circuit ruled that plaintiffs seeking money damages under Section 504 of the Rehabilitation Act of 1973 have a Seventh Amendment right to a jury trial.

NACUA OUTLINES

Brooke, Penny S. "Liability Issues Related to Advising and Counseling: The Educational Role of the Institution." March 1989 Mid-Winter Workshop.

Orleans, Jeffrey H. "Difficult and Troubled Students." March 1989 Mid-Winter Workshop.

Ruger, Peter H. and Strohm, Leslie Chambers. "AIDS and the Infected Health Care Worker: John Doe v. Washington University." 1989 Annual Conference.

Ruger, Peter H. "AIDS Litigation Issues." 1989 Annual Conference.

Savage, Frederick G. "AIDS: Special Considerations in the Academic Health Science Center." November 1989 Advanced Workshop.

Woods, Gerald W. "AIDS: A Review of Selected Legal Issues in the Clinical Teaching Environment." November 1989 Advanced Workshop.

Strohm, Leslie Chambers. "Policy Recommendations for Responding to the Challenges of HIV and ABV Infection." November 1989 Advanced Workshop.

LAW REVIEW AND JOURNAL ARTICLES

"AIDS: A University's Liability for Failure to Protect its Students," 14 The Journal of College and University Law 529-538 (1988).

"Symposium on AIDS and the Rights and Obligations of Health Care Workers," 48 Maryland Law Review 1-245 (1989).

"AIDS: Establishing a Physician's Duty to Warn," 21 Rutgers Law Journal 645-667 (1990).

"AIDS in the Workplace: Public and Corporate Policy," 13 Harvard Journal of Law and Public Policy 689-713 (1990).

"Symposium on AIDS," 5 Notre Dame Journal of Law, Ethics & Public Policy 1-255 (1990).

"The Harvard Model AIDS Legislation Project," 16 American Journal of Law & Medicine 1-265 (1990).

AMERICAN BAR ASSOCIATION MATERIALS

"ABA AIDS Network," a quarterly publication of the ABA AIDS Coordination Project, 1800 M Street, NW, Washington, DC 20036
(202) 331-2608.

The Network provides information on the AIDS and HIV-related activities of the American Bar Association and its members, but is not intended to represent the official position of the ABA.

SELECT CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

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Summary: Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/ Lymphadenopathy-Associated Virus in the Workplace

The information and recommendations contained in this document have been developed with particular emphasis on health-care workers and others in related occupations in which exposure might occur to blood from persons infected with HTLV-III/LAV, the "AIDS virus." Because of public concern about the purported risk of transmission of HTLV-III/LAV by persons providing personal services and those preparing and serving food and beverages, this document also addresses personal-service and food-service workers. Finally, it addresses "other workers"—persons in settings, such as offices, schools, factories, and construction sites, where there is no known risk of AIDS virus transmission.

Because AIDS is a bloodborne, sexually transmitted disease that is not spread by casual contact, this document does *not* recommend routine HTLV-III/LAV antibody screening for the groups addressed. Because AIDS is not transmitted through preparation or serving of food and beverages, these recommendations state that food-service workers known to be infected with AIDS should not be restricted from work unless they have another infection or illness for which such restriction would be warranted.

This document contains detailed recommendations for precautions appropriate to prevent transmission of all bloodborne infectious diseases to people exposed—in the course of their duties—to blood from persons who may be infected with HTLV-III/LAV. They emphasize that health-care workers should take all possible precautions to prevent needlestick injury. The recommendations are based on the well-documented modes of HTLV-III/LAV transmission and incorporate a "worst case" scenario, the hepatitis B model of transmission. Because the hepatitis B virus is also bloodborne and is both hardier and more infectious than HTLV-III/LAV, recommendations that would prevent transmission of hepatitis B will also prevent transmission of AIDS.

Formulation of specific recommendations for health-care workers who perform invasive procedures is in progress.

Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/ Lymphadenopathy-Associated Virus in the Workplace

Persons at increased risk of acquiring infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the virus that causes acquired immunodeficiency syndrome (AIDS), include homosexual and bisexual men, intravenous (IV) drug abusers, persons transfused with contaminated blood or blood products, heterosexual contacts of persons with HTLV-III/LAV infection, and children born to infected mothers. HTLV-III/LAV is transmitted through sexual contact, parenteral exposure to infected blood or blood components, and perinatal transmission from mother to neonate. HTLV-III/LAV has been isolated from blood, semen, saliva, tears, breast milk, and urine and is likely to be isolated from some other body fluids, secretions, and excretions, but epidemiologic evidence has implicated only blood and semen in transmission. Studies of nonsexual household contacts of AIDS patients indicate that casual contact with saliva and tears does not result in transmission of infection. Spread of infection to household contacts of infected persons has not been detected when the household contacts have not been sex partners or have not been infants of infected mothers. The kind of nonsexual person-to-person contact that generally occurs among workers and clients or consumers in the workplace does not pose a risk for transmission of HTLV-III/LAV.

As in the development of any such recommendations, the paramount consideration is the protection of the public's health. The following recommendations have been developed for all workers, particularly workers in occupations in which exposure might occur to blood from individuals infected with HTLV-III/LAV. These recommendations reinforce and supplement the specific recommendations that were published earlier for clinical and laboratory staffs (*1*) and for dental-care personnel and persons performing necropsies and morticians' services (*2*). Because of public concern about the purported risk of transmission of HTLV-III/LAV by persons providing personal services and by food and beverages, these recommendations contain information and recommendations for personal-service and food-service workers. Finally, these recommendations address workplaces in general where there is no known risk of transmission of HTLV-III/LAV (e.g., offices, schools, factories, construction sites). Formulation of specific recommendations for health-care workers (HCWs) who perform invasive procedures (e.g., surgeons, dentists) is in progress. Separate recommendations are also being developed to prevent HTLV-III/LAV transmission in prisons, other correctional facilities, and institutions housing individuals who may exhibit uncontrollable behavior (e.g., custodial institutions) and in the perinatal setting. In addition, separate recommendations have already been developed for children in schools and day-care centers (*3*).

HTLV-III/LAV-infected individuals include those with AIDS (*4*); those diagnosed by their physician(s) as having other illnesses due to infection with HTLV-III/LAV; and those who have virologic or serologic evidence of infection with HTLV-III/LAV but who are not ill.

These recommendations are based on the well-documented modes of HTLV-III/LAV transmission identified in epidemiologic studies and on comparison with the hepatitis B experience. Other recommendations are based on the hepatitis B model of transmission.

COMPARISON WITH THE HEPATITIS B VIRUS EXPERIENCE

The epidemiology of HTLV-III/LAV infection is similar to that of hepatitis B virus (HBV) infection, and much that has been learned over the last 15 years related to the risk of acquiring hepatitis B in the workplace can be applied to understanding the risk of HTLV-III/LAV transmission in the health-care and other occupational settings. Both viruses are transmitted through sexual contact, parenteral exposure to contaminated blood or blood products, and perinatal transmission from infected mothers to their offspring. Thus, some of the same major groups at high risk for HBV infection (e.g., homosexual men, IV drug abusers, persons with hemophilia, infants born to infected mothers) are also the groups at highest risk for HTLV-III/LAV infection. Neither HBV nor HTLV-III/LAV has been shown to be transmitted by casual contact in the workplace, contaminated food or water, or airborne or fecal-oral routes (*5*).

HBV infection is an occupational risk for HCWs, but this risk is related to degree of contact with blood or contaminated needles. HCWs who do not have contact with blood or needles contaminated with blood are not at risk for acquiring HBV infection in the workplace (*6-8*).

In the health-care setting, HBV transmission has not been documented between hospitalized patients, except in hemodialysis units, where blood contamination of the environment has been extensive or where HBV-positive blood from one patient has been transferred to another patient through contamination of instruments. Evidence of HBV transmission from HCWs to patients has been rare and limited to situations in which the HCWs exhibited high concentrations of virus in their blood (at least 100,000,000 infectious virus particles per ml of serum), and the HCWs sustained a puncture wound while performing traumatic procedures on patients or had exudative or weeping lesions that allowed virus to contaminate instruments or open wounds of patients (*9-11*).

Current evidence indicates that, despite epidemiologic similarities of HBV and HTLV-III/LAV infection, the risk for HBV transmission in health-care settings far exceeds that for HTLV-III/LAV transmission. The risk of acquiring HBV infection following a needlestick from an HBV carrier ranges from 6% to 30% (*12,13*), far in excess of the risk of HTLV-III/LAV infection following a needlestick involving a source patient infected with HTLV-III/LAV, which is less than 1%. In addition, all HCWs who have been shown to transmit HBV infection in health-care settings have belonged to the subset of chronic HBV carriers who, when tested, have exhibited evidence of exceptionally high concentrations of virus (at least 100,000,000 infectious virus particles per ml) in their blood. Chronic carriers who have substantially lower concentrations of virus in their blood have not been implicated in transmission in the health-care setting (*9-11,14*). The HBV model thus represents a "worst case" condition in regard to transmission in health-care and other related settings. Therefore, recommendations for the control of HBV infection should, if followed, also effectively prevent spread of HTLV-III/LAV. Whether additional measures are indicated for those HCWs who perform invasive procedures will be addressed in the recommendations currently being developed.

Routine screening of all patients or HCWs for evidence of HBV infection has never been recommended. Control of HBV transmission in the health-care setting has emphasized the implementation of recommendations for the appropriate handling of blood, other body fluids, and items soiled with blood or other body fluids.

TRANSMISSION FROM PATIENTS TO HEALTH-CARE WORKERS

HCWs include, but are not limited to, nurses, physicians, dentists and other dental workers, optometrists, podiatrists, chiropractors, laboratory and blood bank technologists and technicians, phlebotomists, dialysis personnel, paramedics, emergency medical technicians, medical examiners, morticians, housekeepers, laundry workers, and others whose work involves contact with patients, their blood or other body fluids, or corpses.

Recommendations for HCWs emphasize precautions appropriate for preventing transmission of bloodborne infectious diseases, including HTLV-III/LAV and HBV infections. Thus, these precautions should be enforced routinely, as should other standard infection-control precautions, regardless of whether HCWs or patients are known to be infected with HTLV-III/LAV or HBV. In addition to being informed of these precautions, all HCWs, including students and housestaff, should be educated regarding the epidemiology, modes of transmission, and prevention of HTLV-III/LAV infection.

Risk of HCWs acquiring HTLV-III/LAV in the workplace. Using the HBV model, the highest risk for transmission of HTLV-III/LAV in the workplace would involve parenteral exposure to a needle or other sharp instrument contaminated with blood of an infected patient. The risk to HCWs of acquiring HTLV-III/LAV infection in the workplace has been evaluated in several studies. In five separate studies, a total of 1,498 HCWs have been tested for antibody to HTLV-III/LAV. In these studies, 666 (44.5%) of the HCWs had direct parenteral (needlestick or cut) or mucous membrane exposure to patients with AIDS or HTLV-III/LAV infection. Most of these exposures were to blood rather than to other body fluids. None of the HCWs whose initial serologic tests were negative developed subsequent evidence of HTLV-III/LAV infection following their exposures. Twenty-six HCWs in these five studies were seropositive when first tested; all but three of these persons belonged to groups recognized to be at increased risk for AIDS (*15*). Since one was tested anonymously, epidemiologic information was available on only two of these three seropositive HCWs. Although these two HCWs were reported as probable occupationally related HTLV-III/LAV infection (*15,16*), neither had a preexposure nor an early postexposure serum sample available to help determine the onset of infection. One case reported from England describes a nurse who seroconverted following an accidental parenteral exposure to a needle contaminated with blood from an AIDS patient (*17*).

In spite of the extremely low risk of transmission of HTLV-III/LAV infection, even when needlestick injuries occur, more emphasis must be given to precautions targeted to prevent needlestick injuries in HCWs caring for any patient, since such injuries continue to occur even during the care of patients who are known to be infected with HTLV-III/LAV.

Precautions to prevent acquisition of HTLV-III/LAV infection by HCWs in the workplace. These precautions represent prudent practices that apply to preventing transmission of HTLV-III/LAV and other bloodborne infections and should be used routinely (*18*).

1. Sharp items (needles, scalpel blades, and other sharp instruments) should be considered as potentially infective and be handled with extraordinary care to prevent accidental injuries.
2. Disposable syringes and needles, scalpel blades, and other sharp items should be placed into puncture-resistant containers located as close as practical to the area in which they were used. To prevent needlestick injuries, needles should not be recapped, purposefully bent, broken, removed from disposable syringes, or otherwise manipulated by hand.
3. When the possibility of exposure to blood or other body fluids exists, routinely recommended precautions should be followed. The anticipated exposure may require gloves alone, as in handling items soiled with blood or equipment contaminated with blood or other body fluids, or may also require gowns, masks, and eye-coverings when performing procedures involving more extensive contact with blood or potentially infective body fluids, as in some dental or endoscopic procedures or postmortem examinations. Hands should be washed thoroughly and immediately if they accidentally become contaminated with blood.
4. To minimize the need for emergency mouth-to-mouth resuscitation, mouth pieces, resuscitation bags, or other ventilation devices should be strategically located and available for use in areas where the need for resuscitation is predictable.
5. Pregnant HCWs are not known to be at greater risk of contracting HTLV-III/LAV infections than HCWs who are not pregnant; however, if a HCW develops HTLV-III/LAV infection during pregnancy, the infant is at increased risk of infection resulting from perinatal transmission. Because of this risk, pregnant HCWs should be especially familiar with precautions for the preventing HTLV-III/LAV transmission (*19*).

Precautions for HCWs during home care of persons infected with HTLV-III/LAV. Persons infected with HTLV-III/LAV can be safely cared for in home environments. Studies of family members of patients infected with HTLV-III/LAV have found no evidence of HTLV-III/LAV transmission to adults who were not sexual contacts of the infected patients or to children who were not at risk for perinatal transmission (*3*). HCWs providing home care face the same risk of transmission of infection as HCWs in hospitals and other health-care settings, especially if there are needlesticks or other parenteral or mucous membrane exposures to blood or other body fluids.

When providing health-care service in the home to persons infected with HTLV-III/LAV, measures similar to those used in hospitals are appropriate. As in the hospital, needles should not be recapped, purposefully bent, broken, removed from disposable syringes, or otherwise manipulated by hand. Needles and other sharp items should be placed into puncture-resistant containers and disposed of in accordance with local regulations for solid waste. Blood and other body fluids can be flushed down the toilet. Other items for disposal that are contaminated with blood or other body fluids that cannot be flushed down the toilet should be wrapped securely in a plastic bag that is impervious and sturdy (not easily penetrated). It should be placed in a second bag before being discarded in a manner consistent with local regulations for solid waste disposal. Spills of blood or other body fluids should be cleaned with soap and water or a household detergent. As in the hospital, individuals cleaning up such spills should wear disposable gloves. A disinfectant solution or a freshly prepared solution of sodium hypochlorite (household bleach, see below) should be used to wipe the area after cleaning.

Precautions for providers of prehospital emergency health care. Providers of prehospital emergency health care include the following: paramedics, emergency medical technicians, law enforcement personnel, firefighters, lifeguards, and others whose job might require them to provide first-response medical care. The risk of transmission of infection, including HTLV-III/LAV infection, from infected persons to providers of prehospital emergency health care should be no higher than that for HCWs providing emergency care in the hospital if appropriate precautions are taken to prevent exposure to blood or other body fluids.

Providers of prehospital emergency health care should follow the precautions outlined above for other HCWs. No transmission of HBV infection during mouth-to-mouth resuscitation has been documented. However, because of the theoretical risk of salivary transmission of HTLV-III/LAV during mouth-to-mouth resuscitation, special attention should be given to the use of disposable airway equipment or resuscitation bags and the wearing of gloves when in contact with blood or other body fluids. Resuscitation equipment and devices known or suspected to be contaminated with blood or other body fluids should be used once and disposed of or be thoroughly cleaned and disinfected after each use.

Management of parenteral and mucous membrane exposures of HCWs. If a HCW has a parenteral (e.g., needlestick or cut) or mucous membrane (e.g., splash to the eye or mouth) exposure to blood or other body fluids, the source patient should be assessed clinically and epidemiologically to determine the likelihood of HTLV-III/LAV infection. If the assessment suggests that infection may exist, the patient should be informed of the incident and requested to consent to serologic testing for evidence of HTLV-III/LAV infection. If the source patient has AIDS or other evidence of HTLV-III/LAV infection, declines testing, or has a positive test, the HCW should be evaluated clinically and serologically for evidence of HTLV-III/LAV infection as soon as possible after the exposure, and, if seronegative, retested after 6 weeks and on a periodic basis thereafter (e.g., 3, 6, and 12 months following exposure) to determine if transmission has occurred. During this follow-up period, especially the first 6-12 weeks, when most infected persons are expected to seroconvert, exposed HCWs should receive counseling about the risk of infection and follow U.S. Public Health Service (PHS) recommendations for preventing transmission of AIDS (*20,21*). If the source patient is seronegative and has no other evidence of HTLV-III/LAV infection, no further follow-up of the HCW is necessary. If the source patient cannot be identified, decisions regarding appropriate follow-up should be individualized based on the type of exposure and the likelihood that the source patient was infected.

Serologic testing of patients. Routine serologic testing of all patients for antibody to HTLV-III/LAV is not recommended to prevent transmission of HTLV-III/LAV infection in the workplace. Results of such testing are unlikely to further reduce the risk of transmission, which, even with documented needlesticks, is already extremely low. Furthermore, the risk of needlestick and other parenteral exposures could be reduced by emphasizing and more consistently implementing routinely recommended infection-control precautions (e.g., not recapping needles). Moreover, results of routine serologic testing would not be available for emergency cases and patients with short lengths of stay, and additional tests to determine whether a positive test was a true or false positive would be required in populations with a low prevalence of infection. However, this recommendation is based only on considerations of occupational risks and should not be construed as a recommendation against other uses of the serologic test, such as for diagnosis or to facilitate medical management of patients. Since the experience with infected patients varies substantially among hospitals (75% of all AIDS cases have been reported by only 280 of the more than 6,000 acute-care hospitals in the United States), some hospitals in certain geographic areas may deem it appropriate to initiate serologic testing of patients.

TRANSMISSION FROM HEALTH-CARE WORKERS TO PATIENTS

Risk of transmission of HTLV-III/LAV infection from HCWs to patients. Although there is no evidence that HCWs infected with HTLV-III/LAV have transmitted infection to patients, a risk of transmission of HTLV-III/LAV infection from HCWs to patients would exist in situations where there is both (1) a high degree of trauma to the patient that would provide a portal of entry for the virus (e.g., during invasive procedures) and (2) access of blood or serous fluid from the infected HCW to the open tissue of a patient, as could occur if the HCW sustains a needlestick or scalpel injury during an invasive procedure. HCWs known to be infected with HTLV-III/LAV who do not perform invasive procedures need not be restricted from work unless they have evidence of other infection or illness for which any HCW should be restricted. Whether additional restrictions are indicated for HCWs who perform invasive procedures is currently being considered.

Precautions to prevent transmission of HTLV-III/LAV infection from HCWs to patients. These precautions apply to all HCWs, regardless of whether they perform invasive procedures: (1) All HCWs should wear gloves for direct contact with mucous membranes or nonintact skin of all patients and (2) HCWs who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling patient-care equipment until the condition resolves.

Management of parenteral and mucous membrane exposures of patients. If a patient has a parenteral or mucous membrane exposure to blood or other body fluids of a HCW, the patient should be informed of the incident and the same procedure outlined above for exposures of HCWs to patients should be followed for both the source HCW and the potentially exposed patient. Management of this type of exposure will be addressed in more detail in the recommendations for HCWs who perform invasive procedures.

Serologic testing of HCWs. Routine serologic testing of HCWs who do not perform invasive procedures (including providers of home and prehospital emergency care) is not recommended to prevent transmission of HTLV-III/LAV infection. The risk of transmission is extremely low and can be further minimized when routinely recommended infection-control precautions are followed. However, serologic testing should be available to HCWs who may wish to know their HTLV-III/LAV infection status. Whether indications exist for serologic testing of HCWs who perform invasive procedures is currently being considered.

Risk of occupational acquisition of other infectious diseases by HCWs infected with HTLV-III/LAV. HCWs who are known to be infected with HTLV-III/LAV and who have defective immune systems are at increased risk of acquiring or experiencing serious complications of other infectious diseases. Of particular concern is the risk of severe infection following exposure to patients with infectious diseases that are easily transmitted if appropriate precautions are not taken (e.g., tuberculosis). HCWs infected with HTLV-III/LAV should be counseled about the potential risk associated with taking care of patients with transmissible infections and should continue to follow existing recommendations for infection control to minimize their risk of exposure to other infectious agents (*18,19*). The HCWs' personal physician(s), in conjunction with their institutions' personnel health services or medical directors, should determine on an individual basis whether the infected HCWs can adequately and safely perform patient-care duties and suggest changes in work assignments, if indicated. In making this determination, recommendations of the Immunization Practices Advisory Committee and institutional policies concerning requirements for vaccinating HCWs with live-virus vaccines should also be considered.

STERILIZATION, DISINFECTION, HOUSEKEEPING, AND WASTE DISPOSAL TO PREVENT TRANSMISSION OF HTLV-III/LAV

Sterilization and disinfection procedures currently recommended for use (*22,23*) in health-care and dental facilities are adequate to sterilize or disinfect instruments, devices, or other items contaminated with the blood or other body fluids from individuals infected with HTLV-III/LAV. Instruments or other nondisposable items that enter normally sterile tissue or the vascular system or through which blood flows should be sterilized before reuse. Surgical instruments used on all patients should be decontaminated after use rather than just rinsed with water. Decontamination can be accomplished by machine or by hand cleaning by trained personnel wearing appropriate protective attire (*24*) and using appropriate chemical germicides. Instruments or other nondisposable items that touch intact mucous membranes should receive high-level disinfection.

Several liquid chemical germicides commonly used in laboratories and health-care facilities have been shown to kill HTLV-III/LAV at concentrations much lower than are used in practice (*25*). When decontaminating instruments or medical devices, chemical germicides that are registered with and approved by the U.S. Environmental Protection Agency (EPA) as "sterilants" can be used either for sterilization or for high-level disinfection depending on contact time; germicides that are approved for use as "hospital disinfectants" and are mycobactericidal when used at appropriate dilutions can also be used for high-level disinfection of devices and instruments. Germicides that are mycobactericidal are preferred because mycobacteria represent one of the most resistant groups of microorganisms; therefore, germicides that are effective against mycobacteria are also effective against other bacterial and viral pathogens. When chemical germicides are used, instruments or devices to be sterilized or disinfected should be thoroughly cleaned before exposure to the germicide, and the manufacturer's instructions for use of the germicide should be followed.

Laundry and dishwashing cycles commonly used in hospitals are adequate to decontaminate linens, dishes, glassware, and utensils. When cleaning environmental surfaces, housekeeping procedures commonly used in hospitals are adequate; surfaces exposed to blood and body fluids should be cleaned with a detergent followed by decontamination using an EPA-approved hospital disinfectant that is mycobactericidal. Individuals cleaning up such spills should wear disposable gloves. Information on specific label claims of commercial germicides can be obtained by writing to the Disinfectants Branch, Office of Pesticides, Environmental Protection Agency, 401 M Street, S.W., Washington, D.C., 20460.

In addition to hospital disinfectants, a freshly prepared solution of sodium hypochlorite (household bleach) is an inexpensive and very effective germicide (*25*). Concentrations ranging from 5,000 ppm (a 1:10 dilution of household bleach) to 500 ppm (a 1:100 dilution) sodium hypochlorite are effective, depending on the amount of organic material (e.g., blood, mucus, etc.) present on the surface to be cleaned and disinfected.

Sharp items should be considered as potentially infective and should be handled and disposed of with extraordinary care to prevent accidental injuries. Other potentially infective waste should be contained and transported in clearly identified impervious plastic bags. If the outside of the bag is contaminated with blood or other body fluids, a second outer bag should be used. Recommended practices for disposal of infective waste (*23*) are adequate for disposal of waste contaminated by HTLV-III/LAV. Blood and other body fluids may be carefully poured down a drain connected to a sanitary sewer.

CONSIDERATIONS RELEVANT TO OTHER WORKERS

Personal-service workers (PSWs). PSWs are defined as individuals whose occupations involve close personal contact with clients (e.g., hairdressers, barbers, estheticians, cosmetologists, manicurists, pedicurists, massage therapists). PSWs whose services (tattooing, ear piercing, acupuncture, etc.) require needles or other instruments that penetrate the skin should follow precautions indicated for HCWs. Although there is no evidence of transmission of HTLV-III/LAV from clients to PSWs, from PSWs to clients, or between clients of PSWs, a risk of transmission would exist from PSWs to clients and vice versa in situations where there is both (1) trauma to one of the individuals that would provide a portal of entry for the virus and (2) access of blood or serous fluid from one infected person to the open tissue of the other, as could occur if either sustained a cut. A risk of transmission from client to client exists when instruments contaminated with blood are not sterilized or disinfected between clients. However, HBV transmission has been documented only rarely in acupuncture, ear piercing, and tattoo establishments and never in other personal-service settings, indicating that any risk for HTLV-III/LAV transmission in personal-service settings must be extremely low

All PSWs should be educated about transmission of bloodborne infections, including HTLV-III/LAV and HBV. Such education should emphasize principles of good hygiene, antisepsis, and disinfection. This education can be accomplished by national or state professional organizations, with assistance from state and local health departments, using lectures at meetings or self-instructional materials. Licensure requirements should include evidence of such education. Instruments that are intended to penetrate the skin (e.g., tattooing and acupuncture needles, ear piercing devices) should be used once and disposed of or be thoroughly cleaned and sterilized after each use using procedures recommended for use in health-care institutions. Instruments not intended to penetrate the skin but which may become contaminated with blood (e.g., razors), should be used for only one client and be disposed of or thoroughly cleaned and disinfected after use using procedures recommended for use in health-care institutions. Any PSW with exudative lesions or weeping dermatitis, regardless of HTLV-III/LAV infection status, should refrain from direct contact with clients until the condition resolves. PSWs known to be infected with HTLV-III/LAV need not be restricted from work unless they have evidence of other infections or illnesses for which any PSW should also be restricted.

Routine serologic testing of PSWs for antibody to HTLV-III/LAV is not recommended to prevent transmission from PSWs to clients.

Food-service workers (FSWs). FSWs are defined as individuals whose occupations involve the preparation or serving of food or beverages (e.g., cooks, caterers, servers, waiters, bartenders, airline attendants). All epidemiologic and laboratory evidence indicates that bloodborne and sexually transmitted infections are not transmitted during the preparation or serving of food or beverages, and no instances of HBV or HTLV-III/LAV transmission have been documented in this setting.

All FSWs should follow recommended standards and practices of good personal hygiene and food sanitation (*26*). All FSWs should exercise care to avoid injury to hands when preparing food. Should such an injury occur, both aesthetic and sanitary considerations would dictate that food contaminated with blood be discarded. FSWs known to be infected with HTLV-III/LAV need not be restricted from work unless they have evidence of other infection or illness for which any FSW should also be restricted.

Routine serologic testing of FSWs for antibody to HTLV-III/LAV is not recommended to prevent disease transmission from FSWs to consumers.

Other workers sharing the same work environment. No known risk of transmission to co-workers, clients, or consumers exists from HTLV-III/LAV-infected workers in other settings (e.g., offices, schools, factories, construction sites). This infection is spread by sexual contact with infected persons, injection of contaminated blood or blood products, and by perinatal transmission. Workers known to be infected with HTLV-III/LAV should not be restricted from work solely based on this finding. Moreover, they should not be restricted from using telephones, office equipment, toilets, showers, eating facilities, and water fountains. Equipment contaminated with blood or other body fluids of any worker, regardless of HTLV-III/LAV infection status, should be cleaned with soap and water or a detergent. A disinfectant solution or a fresh solution of sodium hypochlorite (household bleach, see above) should be used to wipe the area after cleaning.

OTHER ISSUES IN THE WORKPLACE

The information and recommendations contained in this document do not address all the potential issues that may have to be considered when making specific employment decisions for persons with HTLV-III/LAV infection. The diagnosis of HTLV-III/LAV infection may evoke unwarranted fear and suspicion in some co-workers. Other issues that may be considered include the need for confidentiality, applicable federal, state, or local laws governing occupational safety and health, civil rights of employees, workers' compensation laws, provisions of collective bargaining agreements, confidentiality of medical records, informed consent, employee and patient privacy rights, and employee right-to-know statutes.

DEVELOPMENT OF THESE RECOMMENDATIONS

The information and recommendations contained in these recommendations were developed and compiled by CDC and other PHS agencies in consultation with individuals representing various organizations. The following organizations were represented: Association of State and Territorial Health Officials, Conference of State and Territorial Epidemiologists, Association of State and Territorial Public Health Laboratory Directors, National Association of County Health Officials, American Hospital Association, United States Conference of Local Health Officers, Association for Practitioners in Infection Control, Society of Hospital Epidemiologists of America, American Dental Association, American Medical Association, American Nurses' Association, American Association of Medical Colleges, American Association of Dental Schools, National Institutes of Health, Food and Drug Administration, Food Research Institute, National Restaurant Association, National Hairdressers and Cosmetologists Association, National Gay Task Force, National Funeral Directors and Morticians Association, American Association of Physicians for Human Rights, and National Association of Emergency Medical Technicians. The consultants also included a labor union representative, an attorney, a corporate medical director, and a pathologist. However, these recommendations may not reflect the views of individual consultants or the organizations they represented.

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Public Health Service Guidelines for Counseling and Antibody Testing to Prevent HIV Infection and AIDS

These guidelines are the outgrowth of the 1986 recommendations published in the *MMWR* (*1*); the report on the February 24-25, 1987, Conference on Counseling and Testing (*2*); and a series of meetings with representatives from the Association of State and Territorial Health Officials, the Association of State and Territorial Public Health Laboratory Directors, the Council of State and Territorial Epidemiologists, the National Association of County Health Officials, the United States Conference of Local Health Officers, and the National Association of State Alcohol and Drug Abuse Directors.

Human immunodeficiency virus (HIV), the causative agent of acquired immunodeficiency syndrome (AIDS) and related clinical manifestations, has been shown to be spread by sexual contact; by parenteral exposure to blood (most often through intravenous [IV] drug abuse) and, rarely, by other exposures to blood; and from an infected woman to her fetus or infant.

Persons exposed to HIV usually develop detectable levels of antibody against the virus within 6-12 weeks of infection. The presence of antibody indicates current infection, though many infected persons may have minimal or no clinical evidence of disease for years. Counseling and testing persons who are infected or at risk for acquiring HIV infection is an important component of prevention strategy (*1*). Most of the estimated 1.0 to 1.5 million infected persons in the United States are unaware that they are infected with HIV. The primary public health purposes of counseling and testing are to help uninfected individuals initiate and sustain behavioral changes that reduce their risk of becoming infected and to assist infected individuals in avoiding infecting others.

Along with the potential personal, medical, and public health benefits of testing for HIV antibody, public health agencies must be concerned about actions that will discourage the use of counseling and testing facilities, most notably the unauthorized disclosure of personal information and the possibility of inappropriate discrimination.

Priorities for public health counseling and testing should be based upon providing ready access to persons who are most likely to be infected or who practice high-risk behaviors, thereby helping to reduce further spread of infection. There are other considerations for determining testing priorities, including the likely effectiveness of preventing the spread of infection among persons who would not otherwise realize that they are at risk. Knowledge of the prevalence of HIV infection in different populations is useful in determining the most efficient and effective locations providing such services. For example, programs that offer counseling and testing to homosexual men, IV-drug abusers, persons with hemophilia, sexual and/or needle-sharing partners of these persons, and patients of sexually transmitted disease clinics may be most effective since persons in these groups are at high risk for infection. After counseling and testing are effectively implemented in settings of high and moderate prevalence, consideration should be given to establishing programs in settings of lower prevalence.

Interpretation of HIV-Antibody Test Results

A test for HIV antibody is considered positive when a sequence of tests, starting with a repeatedly reactive enzyme immunoassay (EIA) and including an additional, more specific assay, such as a Western blot, are consistently reactive.

The *sensitivity* of the currently licensed EIA tests is 99% or greater when performed under optimal laboratory conditions. Given this performance, the probability of a false-negative test result is remote, except during the first weeks after infection, before antibody is detectable.

The *specificity* of the currently licensed EIA tests is approximately 99% when repeatedly reactive tests are considered. Repeat testing of specimens initially reactive by EIA is required to reduce the likelihood of false-positive test results due to laboratory error. To further increase the specificity of the testing process, laboratories must use a supplemental test—most often the Western blot test—to validate repeatedly reactive EIA results. The sensitivity of the licensed Western blot test is comparable to that of the EIA, and it is highly specific when strict criteria are used for interpretation. Under ideal circumstances, the probability that a testing sequence will be falsely positive in a population with a low rate of infection ranges from less than 1 in 100,000 (Minnesota Department of Health, unpublished data) to an estimated 5 in 100,000 (*3,4*). Laboratories using different Western blot reagents or other tests or using less stringent interpretive criteria may experience higher rates of false-positive results.

Laboratories should carefully guard against human errors, which are likely to be the most common source of false-positive test results. All laboratories should anticipate the need for assuring quality performance of tests for HIV antibody by training personnel, establishing quality controls, and participating in performance evaluation systems. Health department laboratories should facilitate the quality assurance of the performance of laboratories in their jurisdiction.

Guidelines for Counseling and Testing for HIV Antibody

These guidelines are based on public health considerations for HIV testing, including the principles of counseling before and after testing, confidentiality of personal information, and the understanding that a person may decline to be tested without being denied health care or other services, except where testing is required by law (*5*). Counseling before testing may not be practical when screening for HIV antibody is required. This is true for donors of blood, organs, and tissue; prisoners; and immigrants for whom testing is a Federal requirement as well as for persons admitted to state correctional institutions in states that require testing. When there is no counseling before testing, persons should be informed that testing for HIV antibody will be performed, that individual results will be kept confidential to the extent permitted by law, and that appropriate counseling will be offered. Individual counseling of those who are either HIV-antibody positive or at continuing risk for HIV infection is critical for reducing further transmission and for ensuring timely medical care.

Specific recommendations follow:

1. *Persons who may have sexually transmitted disease.* All persons seeking treatment for a sexually transmitted disease, in all health-care settings including the offices of private physicians, should be routinely* counseled and tested for HIV antibody.
2. *IV-drug abusers.* All persons seeking treatment for IV-drug abuse or having a history of IV-drug abuse should be routinely counseled and tested for HIV antibody. Medical professionals in all health-care settings, including prison clinics, should seek a history of IV-drug abuse from patients and should be aware of its implications for HIV infection. In addition, state and local health policy makers should address the following issues:
   - Treatment programs for IV-drug abusers should be sufficiently available to allow persons seeking assistance to enter promptly and be encouraged to alter the behavior that places them and others at risk for HIV infection.
   - Outreach programs for IV-drug abusers should be undertaken to increase their knowledge of AIDS and of ways to prevent HIV infection, to encourage them to obtain counseling and testing for HIV antibody, and to persuade them to be treated for substance abuse.
3. *Persons who consider themselves at risk.* All persons who consider themselves at risk for HIV infection should be counseled and offered testing for HIV antibody.

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*"Routine counseling and testing" is defined as a policy to provide these services to all clients after informing them that testing will be done. Except where testing is required by law, individuals have the right to decline to be tested without being denied health care or other services.

4. *Women of childbearing age.* All women of childbearing age with identifiable risks for HIV infection should be routinely counseled and tested for HIV antibody, regardless of the health-care setting. Each encounter between a health-care provider and a woman at risk and/or her sexual partners is an opportunity to reach them with information and education about AIDS and prevention of HIV infection. Women are at risk for HIV infection if they:
    - Have used IV drugs.
    - Have engaged in prostitution.
    - Have had sexual partners who are infected or are at risk for infection because they are bisexual or are IV-drug abusers or hemophiliacs.
    - Are living in communities or were born in countries where there is a known or suspected high prevalence of infection among women.
    - Received a transfusion before blood was being screened for HIV antibody but after HIV infection occurred in the United States (e.g., between 1978 and 1985).

    Educating and testing these women before they become pregnant allows them to avoid pregnancy and subsequent intrauterine perinatal infection of their infants (30%-50% of the infants born to HIV-infected women will also be infected).

    All pregnant women at risk for HIV infection should be routinely counseled and tested for HIV antibody. Identifying pregnant women with HIV infection as early in pregnancy as possible is important for ensuring appropriate medical care for these women; for planning medical care for their infants; and for providing counseling on family planning, future pregnancies, and the risk of sexual transmission of HIV to others.

    All women who seek family planning services and who are at risk for HIV infection should be routinely counseled about AIDS and HIV infection and tested for HIV antibody. Decisions about the need for counseling and testing programs in a community should be based on the best available estimates of the prevalence of HIV infection and the demographic variables of infection.

5. *Persons planning marriage.* All persons considering marriage should be given information about AIDS, HIV infection, and the availability of counseling and testing for HIV antibody. Decisions about instituting routine or mandatory premarital testing for HIV antibody should take into account the prevalence of HIV infection in the area and/or population group as well as other factors and should be based upon the likely cost-effectiveness of such testing in preventing further spread of infection. Premarital testing in an area with a prevalence of HIV infection as low as 0.1% may be justified if reaching an infected person through testing can prevent subsequent transmission to the spouse or prevent pregnancy in a woman who is infected.

6. *Persons undergoing medical evaluation or treatment.* Testing for HIV antibody is a useful diagnostic tool for evaluating patients with selected clinical signs and symptoms such as generalized lymphadenopathy; unexplained dementia; chronic, unexplained fever or diarrhea; unexplained weight loss; or diseases such as tuberculosis as well as sexually transmitted diseases, generalized herpes, and chronic candidiasis.

   Since persons infected with both HIV and the tubercle bacillus are at high risk for severe clinical tuberculosis, all patients with tuberculosis should be routinely counseled and tested for HIV antibody (*6*). Guidelines for managing patients with both HIV and tuberculous infection have been published (*7*).

   The risk of HIV infection from transfusions of blood or blood components from 1978-1985 was greatest for persons receiving large numbers of units of blood collected from areas with high incidences of AIDS. Persons who have this increased risk should be counseled about the potential risk of HIV infection and should be offered antibody testing (*8*).

7. *Persons admitted to hospitals.* Hospitals, in conjunction with state and local health departments, should periodically determine the prevalence of HIV infections in the age groups at highest risk for infection. Consideration should be given to routine testing in those age groups deemed to have a high prevalence of HIV infection.

8. *Persons in correctional systems.* Correctional systems should study the best means of implementing programs for counseling inmates about HIV infection and for testing them for such infection at admission and discharge from the system. In particular, they should examine the usefulness of these programs in preventing further transmission of HIV infection and the impact of the testing programs on both the inmates and the correctional system (*9*). Federal prisons have been instructed to test all prisoners when they enter and leave the prison system.

9. *Prostitutes.* Male and female prostitutes should be counseled and tested and made aware of the risks of HIV infection to themselves and others. Particularly prostitutes who are HIV-antibody positive should be instructed to discontinue the practice of prostitution. Local or state jurisdictions should adopt procedures to assure that these instructions are followed.

Partner Notification/Contact Tracing

Sexual partners and those who share needles with HIV-infected persons are at risk for HIV infection and should be routinely counseled and tested for HIV antibody. Persons who are HIV-antibody positive should be instructed in how to notify their partners and to refer them for counseling and testing. If they are unwilling to notify their partners or if it cannot be assured that their partners will seek counseling, physicians or health department personnel should use confidential procedures to assure that the partners are notified.

Confidentiality and Antidiscrimination Considerations

The ability of health departments, hospitals, and other health-care providers and institutions to assure confidentiality of patient information and the public's confidence in that ability are crucial to efforts to increase the number of persons being counseled and tested for HIV infection. Moreover, to assure broad participation in the counseling and testing programs, it is of equal or greater importance that the public perceive that persons found to be positive will not be subject to inappropriate discrimination.

Every reasonable effort should be made to improve confidentiality of test results. The confidentiality of related records can be improved by a careful review of actual record-keeping practices and by assessing the degree to which these records can be protected under applicable state laws. State laws should be examined and strengthened when found necessary. Because of the wide scope of "need-to-know" situations, because of the possibility of inappropriate disclosures, and because of established authorization procedures for releasing records, it is recognized that there is no perfect solution to confidentiality problems in all situations. Whether disclosures of HIV-testing information are deliberate, inadvertent, or simply unavoidable, public health policy needs to carefully consider ways to reduce the harmful impact of such disclosures.

Public health prevention policy to reduce the transmission of HIV infection can be furthered by an expanded program of counseling and testing for HIV antibody, but the extent to which these programs are successful depends on the level of participation. Persons are more likely to participate in counseling and testing programs if they believe that they will not experience negative consequences in areas such as employment, school admission, housing, and medical services should they test positive. There is no known medical reason to avoid an infected person in these and ordinary social situations since the cumulative evidence is strong that HIV infection is not spread through casual contact. It is essential to the success of counseling and testing programs that persons who are tested for HIV are not subjected to inappropriate discrimination.

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Recommendations for Prevention of HIV Transmission in Health-Care Settings

Introduction

Human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), is transmitted through sexual contact and exposure to infected blood or blood components and perinatally from mother to neonate. HIV has been isolated from blood, semen, vaginal secretions, saliva, tears, breast milk, cerebrospinal fluid, amniotic fluid, and urine and is likely to be isolated from other body fluids, secretions, and excretions. However, epidemiologic evidence has implicated only blood, semen, vaginal secretions, and possibly breast milk in transmission.

The increasing prevalence of HIV increases the risk that health-care workers will be exposed to blood from patients infected with HIV, especially when blood and body-fluid precautions are not followed for all patients. Thus, this document emphasizes the need for health-care workers to consider all patients as potentially infected with HIV and/or other blood-borne pathogens and to adhere rigorously to infection-control precautions for minimizing the risk of exposure to blood and body fluids of all patients.

The recommendations contained in this document consolidate and update CDC recommendations published earlier for preventing HIV transmission in health-care settings: precautions for clinical and laboratory staffs (*1*) and precautions for health-care workers and allied professionals (*2*); recommendations for preventing HIV transmission in the workplace (*3*) and during invasive procedures (*4*); recommendations for preventing possible transmission of HIV from tears (*5*); and recommendations for providing dialysis treatment for HIV-infected patients (*6*). These recommendations also update portions of the "Guideline for Isolation Precautions in Hospitals" (*7*) and reemphasize some of the recommendations contained in "Infection Control Practices for Dentistry" (*8*). The recommendations contained in this document have been developed for use in health-care settings and emphasize the need to treat blood and other body fluids from all patients as potentially infective. These same prudent precautions also should be taken in other settings in which persons may be exposed to blood or other body fluids.

Definition of Health-Care Workers

Health-care workers are defined as persons, including students and trainees, whose activities involve contact with patients or with blood or other body fluids from patients in a health-care setting.

Health-Care Workers with AIDS

As of July 10, 1987, a total of 1,875 (5.8%) of 32,395 adults with AIDS, who had been reported to the CDC national surveillance system and for whom occupational information was available, reported being employed in a health-care or clinical laboratory setting. In comparison, 6.8 million persons—representing 5.6% of the U.S. labor force—were employed in health services. Of the health-care workers with AIDS, 95% have been reported to exhibit high-risk behavior; for the remaining 5%, the means of HIV acquisition was undetermined. Health-care workers with AIDS were significantly more likely than other workers to have an undetermined risk (5% versus 3%, respectively). For both health-care workers and non-health-care workers with AIDS, the proportion with an undetermined risk has not increased since 1982.

AIDS patients initially reported as not belonging to recognized risk groups are investigated by state and local health departments to determine whether possible risk factors exist. Of all health-care workers with AIDS reported to CDC who were initially characterized as not having an identified risk and for whom follow-up information was available, 66% have been reclassified because risk factors were identified or because the patient was found not to meet the surveillance case definition for AIDS. Of the 87 health-care workers currently categorized as having no identifiable risk, information is incomplete on 16 (18%) because of death or refusal to be interviewed; 38 (44%) are still being investigated. The remaining 33 (38%) health-care workers were interviewed or had other follow-up information available. The occupations of these 33 were as follows: five physicians (15%), three of whom were surgeons; one dentist (3%); three nurses (9%); nine nursing assistants (27%); seven housekeeping or maintenance workers (21%); three clinical laboratory technicians (9%); one therapist (3%); and four others who did not have contact with patients (12%). Although 15 of these 33 health-care workers reported parenteral and/or other non-needlestick exposure to blood or body fluids from patients in the 10 years preceding their diagnosis of AIDS, none of these exposures involved a patient with AIDS or known HIV infection.

Risk to Health-Care Workers of Acquiring HIV in Health-Care Settings

Health-care workers with documented percutaneous or mucous-membrane exposures to blood or body fluids of HIV-infected patients have been prospectively evaluated to determine the risk of infection after such exposures. As of June 30, 1987, 883 health-care workers have been tested for antibody to HIV in an ongoing surveillance project conducted by CDC (*9*). Of these, 708 (80%) had percutaneous exposures to blood, and 175 (20%) had a mucous membrane or an open wound contaminated by blood or body fluid. Of 396 health-care workers, each of whom had only a convalescent-phase serum sample obtained and tested ≥90 days post-exposure, one—for whom heterosexual transmission could not be ruled out—was seropositive for HIV antibody. For 425 additional health-care workers, both acute- and convalescent-phase serum samples were obtained and tested; none of 74 health-care workers with nonpercutaneous exposures seroconverted, and three (0.9%) of 351 with percutaneous exposures seroconverted. None of these three health-care workers had other documented risk factors for infection.

Two other prospective studies to assess the risk of nosocomial acquisition of HIV infection for health-care workers are ongoing in the United States. As of April 30, 1987, 332 health-care workers with a total of 453 needlestick or mucous-membrane exposures to the blood or other body fluids of HIV-infected patients were tested for HIV antibody at the National Institutes of Health (*10*). These exposed workers included 103 with needlestick injuries and 229 with mucous-membrane exposures; none had seroconverted. A similar study at the University of California of 129 health-care workers with documented needlestick injuries or mucous-membrane exposures to blood or other body fluids from patients with HIV infection has not identified any seroconversions (*11*). Results of a prospective study in the United Kingdom identified no evidence of transmission among 150 health-care workers with parenteral or mucous-membrane exposures to blood or other body fluids, secretions, or excretions from patients with HIV infection (*12*).

In addition to health-care workers enrolled in prospective studies, eight persons who provided care to infected patients and denied other risk factors have been reported to have acquired HIV infection. Three of these health-care workers had needlestick exposures to blood from infected patients (*13-15*). Two were persons who provided nursing care to infected persons; although neither sustained a needlestick, both had extensive contact with blood or other body fluids, and neither observed recommended barrier precautions (*16,17*). The other three were health-care workers with non-needlestick exposures to blood from infected patients (*18*). Although the exact route of transmission for these last three infections is not known, all three persons had direct contact of their skin with blood from infected patients, all had skin lesions that may have been contaminated by blood, and one also had a mucous-membrane exposure.

A total of 1,231 dentists and hygienists, many of whom practiced in areas with many AIDS cases, participated in a study to determine the prevalence of antibody to HIV; one dentist (0.1%) had HIV antibody. Although no exposure to a known HIV-infected person could be documented, epidemiologic investigation did not identify any other risk factor for infection. The infected dentist, who also had a history of sustaining needlestick injuries and trauma to his hands, did not routinely wear gloves when providing dental care (*19*).

Precautions To Prevent Transmission of HIV

Universal Precautions

Since medical history and examination cannot reliably identify all patients infected with HIV or other blood-borne pathogens, blood and body-fluid precautions should be consistently used for all patients. This approach, previously recommended by CDC (*3,4*), and referred to as "universal blood and body-fluid precautions" or "universal precautions," should be used in the care of all patients, especially including those in emergency-care settings in which the risk of blood exposure is increased and the infection status of the patient is usually unknown (*20*).

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1. All health-care workers should routinely use appropriate barrier precautions to prevent skin and mucous-membrane exposure when contact with blood or other body fluids of any patient is anticipated. Gloves should be worn for touching blood and body fluids, mucous membranes, or non-intact skin of all patients, for handling items or surfaces soiled with blood or body fluids, and for performing venipuncture and other vascular access procedures. Gloves should be changed after contact with each patient. Masks and protective eyewear or face shields should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of mucous membranes of the mouth, nose, and eyes. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or other body fluids.
2. Hands and other skin surfaces should be washed immediately and thoroughly if contaminated with blood or other body fluids. Hands should be washed immediately after gloves are removed.
3. All health-care workers should take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments after procedures. To prevent needlestick injuries, needles should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers for disposal; the puncture-resistant containers should be located as close as practical to the use area. Large-bore reusable needles should be placed in a puncture-resistant container for transport to the reprocessing area.
4. Although saliva has not been implicated in HIV transmission, to minimize the need for emergency mouth-to-mouth resuscitation, mouthpieces, resuscitation bags, or other ventilation devices should be available for use in areas in which the need for resuscitation is predictable.
5. Health-care workers who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling patient-care equipment until the condition resolves.
6. Pregnant health-care workers are not known to be at greater risk of contracting HIV infection than health-care workers who are not pregnant; however, if a health-care worker develops HIV infection during pregnancy, the infant is at risk of infection resulting from perinatal transmission. Because of this risk, pregnant health-care workers should be especially familiar with and strictly adhere to precautions to minimize the risk of HIV transmission.

Implementation of universal blood and body-fluid precautions for all patients eliminates the need for use of the isolation category of "Blood and Body Fluid Precautions" previously recommended by CDC (*7*) for patients known or suspected to be infected with blood-borne pathogens. Isolation precautions (e.g., enteric, "AFB" [*7*]) should be used as necessary if associated conditions, such as infectious diarrhea or tuberculosis, are diagnosed or suspected.

Precautions for Invasive Procedures

In this document, an invasive procedure is defined as surgical entry into tissues, cavities, or organs or repair of major traumatic injuries 1) in an operating or delivery room, emergency department, or outpatient setting, including both physicians' and dentists' offices; 2) cardiac catheterization and angiographic procedures; 3) a vaginal or cesarean delivery or other invasive obstetric procedure during which bleeding may occur; or 4) the manipulation, cutting, or removal of any oral or perioral tissues, including tooth structure, during which bleeding occurs or the potential for bleeding exists. The universal blood and body-fluid precautions listed above, combined with the precautions listed below, should be the minimum precautions for all such invasive procedures.

1. All health-care workers who participate in invasive procedures must routinely use appropriate barrier precautions to prevent skin and mucous-membrane contact with blood and other body fluids of all patients. Gloves and surgical masks must be worn for all invasive procedures. Protective eyewear or face shields should be worn for procedures that commonly result in the generation of droplets, splashing of blood or other body fluids, or the generation of bone chips. Gowns or aprons made of materials that provide an effective barrier should be worn during invasive procedures that are likely to result in the splashing of blood or other body fluids. All health-care workers who perform or assist in vaginal or cesarean deliveries should wear gloves and gowns when handling the placenta or the infant until blood and amniotic fluid have been removed from the infant's skin and should wear gloves during post-delivery care of the umbilical cord.
2. If a glove is torn or a needlestick or other injury occurs, the glove should be removed and a new glove used as promptly as patient safety permits; the needle or instrument involved in the incident should also be removed from the sterile field.

Precautions for Dentistry*

Blood, saliva, and gingival fluid from all dental patients should be considered infective. Special emphasis should be placed on the following precautions for preventing transmission of blood-borne pathogens in dental practice in both institutional and non-institutional settings.

1. In addition to wearing gloves for contact with oral mucous membranes of all patients, all dental workers should wear surgical masks and protective eyewear or chin-length plastic face shields during dental procedures in which splashing or spattering of blood, saliva, or gingival fluids is likely. Rubber dams, high-speed evacuation, and proper patient positioning, when appropriate, should be utilized to minimize generation of droplets and spatter.
2. Handpieces should be sterilized after use with each patient, since blood, saliva, or gingival fluid of patients may be aspirated into the handpiece or waterline. Handpieces that cannot be sterilized should at least be flushed, the outside surface cleaned and wiped with a suitable chemical germicide, and then rinsed. Handpieces should be flushed at the beginning of the day and after use with each patient. Manufacturers' recommendations should be followed for use and maintenance of waterlines and check valves and for flushing of handpieces. The same precautions should be used for ultrasonic scalers and air/water syringes.

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*General infection-control precautions are more specifically addressed in previous recommendations for infection-control practices for dentistry (*8*).

3. Blood and saliva should be thoroughly and carefully cleaned from material that has been used in the mouth (e.g., impression materials, bite registration), especially before polishing and grinding intra-oral devices. Contaminated materials, impressions, and intra-oral devices should also be cleaned and disinfected before being handled in the dental laboratory and before they are placed in the patient's mouth. Because of the increasing variety of dental materials used intra-orally, dental workers should consult with manufacturers as to the stability of specific materials when using disinfection procedures.
4. Dental equipment and surfaces that are difficult to disinfect (e.g., light handles or X-ray-unit heads) and that may become contaminated should be wrapped with impervious-backed paper, aluminum foil, or clear plastic wrap. The coverings should be removed and discarded, and clean coverings should be put in place after use with each patient.

Precautions for Autopsies or Morticians' Services

In addition to the universal blood and body-fluid precautions listed above, the following precautions should be used by persons performing postmortem procedures:

1. All persons performing or assisting in postmortem procedures should wear gloves, masks, protective eyewear, gowns, and waterproof aprons.
2. Instruments and surfaces contaminated during postmortem procedures should be decontaminated with an appropriate chemical germicide.

Precautions for Dialysis

Patients with end-stage renal disease who are undergoing maintenance dialysis and who have HIV infection can be dialyzed in hospital-based or free-standing dialysis units using conventional infection-control precautions (*21*). Universal blood and body-fluid precautions should be used when dialyzing all patients.

Strategies for disinfecting the dialysis fluid pathways of the hemodialysis machine are targeted to control bacterial contamination and generally consist of using 500-750 parts per million (ppm) of sodium hypochlorite (household bleach) for 30-40 minutes or 1.5%-2.0% formaldehyde overnight. In addition, several chemical germicides formulated to disinfect dialysis machines are commercially available. None of these protocols or procedures need to be changed for dialyzing patients infected with HIV.

Patients infected with HIV can be dialyzed by either hemodialysis or peritoneal dialysis and do not need to be isolated from other patients. The type of dialysis treatment (i.e., hemodialysis or peritoneal dialysis) should be based on the needs of the patient. The dialyzer may be discarded after each use. Alternatively, centers that reuse dialyzers—i.e., a specific single-use dialyzer is issued to a specific patient, removed, cleaned, disinfected, and reused several times on the same patient only—may include HIV-infected patients in the dialyzer-reuse program. An individual dialyzer must never be used on more than one patient.

Precautions for Laboratories[†]

Blood and other body fluids from all patients should be considered infective. To supplement the universal blood and body-fluid precautions listed above, the following precautions are recommended for health-care workers in clinical laboratories.

[†] Additional precautions for research and industrial laboratories are addressed elsewhere (*22,23*).

1. All specimens of blood and body fluids should be put in a well-constructed container with a secure lid to prevent leaking during transport. Care should be taken when collecting each specimen to avoid contaminating the outside of the container and of the laboratory form accompanying the specimen.
2. All persons processing blood and body-fluid specimens (e.g., removing tops from vacuum tubes) should wear gloves. Masks and protective eyewear should be worn if mucous-membrane contact with blood or body fluids is anticipated. Gloves should be changed and hands washed after completion of specimen processing.
3. For routine procedures, such as histologic and pathologic studies or microbiologic culturing, a biological safety cabinet is not necessary. However, biological safety cabinets (Class I or II) should be used whenever procedures are conducted that have a high potential for generating droplets. These include activities such as blending, sonicating, and vigorous mixing.
4. Mechanical pipetting devices should be used for manipulating all liquids in the laboratory. Mouth pipetting must not be done.
5. Use of needles and syringes should be limited to situations in which there is no alternative, and the recommendations for preventing injuries with needles outlined under universal precautions should be followed.
6. Laboratory work surfaces should be decontaminated with an appropriate chemical germicide after a spill of blood or other body fluids and when work activities are completed.
7. Contaminated materials used in laboratory tests should be decontaminated before reprocessing or be placed in bags and disposed of in accordance with institutional policies for disposal of infective waste (*24*).
8. Scientific equipment that has been contaminated with blood or other body fluids should be decontaminated and cleaned before being repaired in the laboratory or transported to the manufacturer.
9. All persons should wash their hands after completing laboratory activities and should remove protective clothing before leaving the laboratory.

Implementation of universal blood and body-fluid precautions for all patients eliminates the need for warning labels on specimens since blood and other body fluids from all patients should be considered infective.

Environmental Considerations for HIV Transmission

No environmentally mediated mode of HIV transmission has been documented. Nevertheless, the precautions described below should be taken routinely in the care of all patients.

Sterilization and Disinfection

Standard sterilization and disinfection procedures for patient-care equipment currently recommended for use (*25,26*) in a variety of health-care settings—including hospitals, medical and dental clinics and offices, hemodialysis centers, emergency-care facilities, and long-term nursing-care facilities—are adequate to sterilize or disinfect instruments, devices, or other items contaminated with blood or other body fluids from persons infected with blood-borne pathogens including HIV (*21,23*).

Instruments or devices that enter sterile tissue or the vascular system of any patient or through which blood flows should be sterilized before reuse. Devices or items that contact intact mucous membranes should be sterilized or receive high-level disinfection, a procedure that kills vegetative organisms and viruses but not necessarily large numbers of bacterial spores. Chemical germicides that are registered with the U.S. Environmental Protection Agency (EPA) as "sterilants" may be used either for sterilization or for high-level disinfection depending on contact time.

Contact lenses used in trial fittings should be disinfected after each fitting by using a hydrogen peroxide contact lens disinfecting system or, if compatible, with heat (78 C-80 C [172.4 F-176.0 F]) for 10 minutes.

Medical devices or instruments that require sterilization or disinfection should be thoroughly cleaned before being exposed to the germicide, and the manufacturer's instructions for the use of the germicide should be followed. Further, it is important that the manufacturer's specifications for compatibility of the medical device with chemical germicides be closely followed. Information on specific label claims of commercial germicides can be obtained by writing to the Disinfectants Branch, Office of Pesticides, Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460.

Studies have shown that HIV is inactivated rapidly after being exposed to commonly used chemical germicides at concentrations that are much lower than used in practice (*27-30*). Embalming fluids are similar to the types of chemical germicides that have been tested and found to completely inactivate HIV. In addition to commercially available chemical germicides, a solution of sodium hypochlorite (household bleach) prepared daily is an inexpensive and effective germicide. Concentrations ranging from approximately 500 ppm (1:100 dilution of household bleach) sodium hypochlorite to 5,000 ppm (1:10 dilution of household bleach) are effective depending on the amount of organic material (e.g., blood, mucus) present on the surface to be cleaned and disinfected. Commercially available chemical germicides may be more compatible with certain medical devices that might be corroded by repeated exposure to sodium hypochlorite, especially to the 1:10 dilution.

Survival of HIV in the Environment

The most extensive study on the survival of HIV after drying involved greatly concentrated HIV samples, i.e., 10 million tissue-culture infectious doses per milliliter (*31*). This concentration is at least 100,000 times greater than that typically found in the blood or serum of patients with HIV infection. HIV was detectable by tissue-culture techniques 1-3 days after drying, but the rate of inactivation was rapid. Studies performed at CDC have also shown that drying HIV causes a rapid (within several hours) 1-2 log (90%-99%) reduction in HIV concentration. In tissue-culture fluid, cell-free HIV could be detected up to 15 days at room temperature, up to 11 days at 37 C (98.6 F), and up to 1 day if the HIV was cell-associated.

When considered in the context of environmental conditions in health-care facilities, these results do not require any changes in currently recommended sterilization, disinfection, or housekeeping strategies. When medical devices are contaminated with blood or other body fluids, existing recommendations include the cleaning of these instruments, followed by disinfection or sterilization, depending on the type of medical device. These protocols assume "worst-case" conditions of extreme virologic and microbiologic contamination, and whether viruses have been inactivated after drying plays no role in formulating these strategies. Consequently, no changes in published procedures for cleaning, disinfecting, or sterilizing need to be made.

Housekeeping

Environmental surfaces such as walls, floors, and other surfaces are not associated with transmission of infections to patients or health-care workers. Therefore, extraordinary attempts to disinfect or sterilize these environmental surfaces are not necessary. However, cleaning and removal of soil should be done routinely.

Cleaning schedules and methods vary according to the area of the hospital or institution, type of surface to be cleaned, and the amount and type of soil present. Horizontal surfaces (e.g., bedside tables and hard-surfaced flooring) in patient-care areas are usually cleaned on a regular basis, when soiling or spills occur, and when a patient is discharged. Cleaning of walls, blinds, and curtains is recommended only if they are visibly soiled. Disinfectant fogging is an unsatisfactory method of decontaminating air and surfaces and is not recommended.

Disinfectant-detergent formulations registered by EPA can be used for cleaning environmental surfaces, but the actual physical removal of microorganisms by scrubbing is probably at least as important as any antimicrobial effect of the cleaning agent used. Therefore, cost, safety, and acceptability by housekeepers can be the main criteria for selecting any such registered agent. The manufacturers' instructions for appropriate use should be followed.

Cleaning and Decontaminating Spills of Blood or Other Body Fluids

Chemical germicides that are approved for use as "hospital disinfectants" and are tuberculocidal when used at recommended dilutions can be used to decontaminate spills of blood and other body fluids. Strategies for decontaminating spills of blood and other body fluids in a patient-care setting are different than for spills of cultures or other materials in clinical, public health, or research laboratories. In patient-care areas, visible material should first be removed and then the area should be decontaminated. With large spills of cultured or concentrated infectious agents in the laboratory, the contaminated area should be flooded with a liquid germicide before cleaning, then decontaminated with fresh germicidal chemical. In both settings, gloves should be worn during the cleaning and decontaminating procedures.

Laundry

Although soiled linen has been identified as a source of large numbers of certain pathogenic microorganisms, the risk of actual disease transmission is negligible. Rather than rigid procedures and specifications, hygienic and common-sense storage and processing of clean and soiled linen are recommended (*26*). Soiled linen should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the linen. All soiled linen should be bagged at the location where it was used; it should not be sorted or rinsed in patient-care areas. Linen soiled with blood or body fluids should be placed and transported in bags that prevent leakage. If hot water is used, linen should be washed with detergent in water at least 71 C (160 F) for 25 minutes. If low-temperature(≤70 C [158 F]) laundry cycles are used, chemicals suitable for low-temperature washing at proper use concentration should be used.

Infective Waste

There is no epidemiologic evidence to suggest that most hospital waste is any more infective than residential waste. Moreover, there is no epidemiologic evidence that hospital waste has caused disease in the community as a result of improper disposal. Therefore, identifying wastes for which special precautions are indicated is largely a matter of judgment about the relative risk of disease transmission. The most practical approach to the management of infective waste is to identify those wastes with the potential for causing infection during handling and disposal and for which some special precautions appear prudent. Hospital wastes for which special precautions appear prudent include microbiology laboratory waste, pathology waste, and blood specimens or blood products. While any item that has had contact with blood, exudates, or secretions may be potentially infective, it is not usually considered practical or necessary to treat all such waste as infective (*23,26*). Infective waste, in general, should either be incinerated or should be autoclaved before disposal in a sanitary landfill. Bulk blood, suctioned fluids, excretions, and secretions may be carefully poured down a drain connected to a sanitary sewer. Sanitary sewers may also be used to dispose of other infectious wastes capable of being ground and flushed into the sewer.

Implementation of Recommended Precautions

Employers of health-care workers should ensure that policies exist for:

1. Initial orientation and continuing education and training of all health-care workers—including students and trainees—on the epidemiology, modes of transmission, and prevention of HIV and other blood-borne infections and the need for routine use of universal blood and body-fluid precautions for all patients.
2. Provision of equipment and supplies necessary to minimize the risk of infection with HIV and other blood-borne pathogens.
3. Monitoring adherence to recommended protective measures. When monitoring reveals a failure to follow recommended precautions, counseling, education, and/or re-training should be provided, and, if necessary, appropriate disciplinary action should be considered.

Professional associations and labor organizations, through continuing education efforts, should emphasize the need for health-care workers to follow recommended precautions.

Serologic Testing for HIV Infection

Background

A person is identified as infected with HIV when a sequence of tests, starting with repeated enzyme immunoassays (EIA) and including a Western blot or similar, more specific assay, are repeatedly reactive. Persons infected with HIV usually develop antibody against the virus within 6-12 weeks after infection.

The sensitivity of the currently licensed EIA tests is at least 99% when they are performed under optimal laboratory conditions on serum specimens from persons infected for ≥12 weeks. Optimal laboratory conditions include the use of reliable reagents, provision of continuing education of personnel, quality control of procedures, and participation in performance-evaluation programs. Given this performance, the probability of a false-negative test is remote except during the first several weeks after infection, before detectable antibody is present. The proportion of infected persons with a false-negative test attributed to absence of antibody in the early stages of infection is dependent on both the incidence and prevalence of HIV infection in a population (Table 1).

The specificity of the currently licensed EIA tests is approximately 99% when repeatedly reactive tests are considered. Repeat testing of initially reactive specimens by EIA is required to reduce the likelihood of laboratory error. To increase further the specificity of serologic tests, laboratories must use a supplemental test, most often the Western blot, to validate repeatedly reactive EIA results. Under optimal laboratory conditions, the sensitivity of the Western blot test is comparable to or greater than that of a repeatedly reactive EIA, and the Western blot is highly specific when strict criteria are used to interpret the test results. The testing sequence of a repeatedly reactive EIA and a positive Western blot test is highly predictive of HIV infection, even in a population with a low prevalence of infection (Table 2). If the Western blot test result is indeterminant, the testing sequence is considered equivocal for HIV infection.

TABLE 1. Estimated annual number of patients infected with HIV not detected by HIV-antibody testing in a hypothetical hospital with 10,000 admissions/year*

Beginning prevalence of HIV infection	Annual incidence of HIV infection	Approximate number of HIV-infected patients	Approximate number of HIV-infected patients not detected
5.0%	1.0%	550	17-18
5.0%	0.5%	525	11-12
1.0%	0.2%	110	3-4
1.0%	0.1%	105	2-3
0.1%	0.02%	11	0-1
0.1%	0.01%	11	0-1

*The estimates are based on the following assumptions: 1) the sensitivity of the screening test is 99% (i.e., 99% of HIV-infected persons with antibody will be detected); 2) persons infected with HIV will not develop detectable antibody (seroconvert) until 6 weeks (1.5 months) after infection; 3) new infections occur at an equal rate throughout the year; 4) calculations of the number of HIV-infected persons in the patient population are based on the mid-year prevalence, which is the beginning prevalence plus half the annual incidence of infections.

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When this occurs, the Western blot test should be repeated on the same serum sample, and, if still indeterminant, the testing sequence should be repeated on a sample collected 3-6 months later. Use of other supplemental tests may aid in interpreting of results on samples that are persistently indeterminant by Western blot.

Testing of Patients

Previous CDC recommendations have emphasized the value of HIV serologic testing of patients for: 1) management of parenteral or mucous-membrane exposures of health-care workers, 2) patient diagnosis and management, and 3) counseling and serologic testing to prevent and control HIV transmission in the community. In addition, more recent recommendations have stated that hospitals, in conjunction with state and local health departments, should periodically determine the prevalence of HIV infection among patients from age groups at highest risk of infection (*32*).

Adherence to universal blood and body-fluid precautions recommended for the care of all patients will minimize the risk of transmission of HIV and other blood-borne pathogens from patients to health-care workers. The utility of routine HIV serologic testing of patients as an adjunct to universal precautions is unknown. Results of such testing may not be available in emergency or outpatient settings. In addition, some recently infected patients will not have detectable antibody to HIV (Table 1).

Personnel in some hospitals have advocated serologic testing of patients in settings in which exposure of health-care workers to large amounts of patients' blood may be anticipated. Specific patients for whom serologic testing has been advocated include those undergoing major operative procedures and those undergoing treatment in critical-care units, especially if they have conditions involving uncontrolled bleeding. Decisions regarding the need to establish testing programs for patients should be made by physicians or individual institutions. In addition, when deemed appropriate, testing of individual patients may be performed on agreement between the patient and the physician providing care.

In addition to the universal precautions recommended for all patients, certain additional precautions for the care of HIV-infected patients undergoing major surgical operations have been proposed by personnel in some hospitals. For example, surgical procedures on an HIV-infected patient might be altered so that hand-to-hand passing of sharp instruments would be eliminated; stapling instruments rather than

TABLE 2. Predictive value of positive HIV-antibody tests in hypothetical populations with different prevalences of infection

	Prevalence of infection	Predictive value of positive test*
Repeatedly reactive enzyme immunoassay (EIA)†	0.2%	28.41%
	2.0%	80.16%
	20.0%	98.02%
Repeatedly reactive EIA followed by positive Western blot (WB)§	0.2%	99.75%
	2.0%	99.97%
	20.0%	99.99%

*Proportion of persons with positive test results who are actually infected with HIV.
†Assumes EIA sensitivity of 99.0% and specificity of 99.5%.
§Assumes WB sensitivity of 99.0% and specificity of 99.9%.

hand-suturing equipment might be used to perform tissue approximation; electrocautery devices rather than scalpels might be used as cutting instruments; and, even though uncomfortable, gowns that totally prevent seepage of blood onto the skin of members of the operative team might be worn. While such modifications might further minimize the risk of HIV infection for members of the operative team, some of these techniques could result in prolongation of operative time and could potentially have an adverse effect on the patient.

Testing programs, if developed, should include the following principles:

- Obtaining consent for testing.
- Informing patients of test results, and providing counseling for seropositive patients by properly trained persons.
- Assuring that confidentiality safeguards are in place to limit knowledge of test results to those directly involved in the care of infected patients or as required by law.
- Assuring that identification of infected patients will not result in denial of needed care or provision of suboptimal care.
- Evaluating prospectively 1) the efficacy of the program in reducing the incidence of parenteral, mucous-membrane, or significant cutaneous exposures of health-care workers to the blood or other body fluids of HIV-infected patients and 2) the effect of modified procedures on patients.

Testing of Health-Care Workers

Although transmission of HIV from infected health-care workers to patients has not been reported, transmission during invasive procedures remains a possibility. Transmission of hepatitis B virus (HBV)—a blood-borne agent with a considerably greater potential for nosocomial spread—from health-care workers to patients has been documented. Such transmission has occurred in situations (e.g., oral and gynecologic surgery) in which health-care workers, when tested, had very high concentrations of HBV in their blood (at least 100 million infectious virus particles per milliliter, a concentration much higher than occurs with HIV infection), and the health-care workers sustained a puncture wound while performing invasive procedures or had exudative or weeping lesions or microlacerations that allowed virus to contaminate instruments or open wounds of patients (*33,34*).

The hepatitis B experience indicates that only those health-care workers who perform certain types of invasive procedures have transmitted HBV to patients. Adherence to recommendations in this document will minimize the risk of transmission of HIV and other blood-borne pathogens from health-care workers to patients during invasive procedures. Since transmission of HIV from infected health-care workers performing invasive procedures to their patients has not been reported and would be expected to occur only very rarely, if at all, the utility of routine testing of such health-care workers to prevent transmission of HIV cannot be assessed. If consideration is given to developing a serologic testing program for health-care workers who perform invasive procedures, the frequency of testing, as well as the issues of consent, confidentiality, and consequences of test results—as previously outlined for testing programs for patients—must be addressed.

Management of Infected Health-Care Workers

Health-care workers with impaired immune systems resulting from HIV infection or other causes are at increased risk of acquiring or experiencing serious complications of infectious disease. Of particular concern is the risk of severe infection following exposure to patients with infectious diseases that are easily transmitted if appropriate precautions are not taken (e.g., measles, varicella). Any health-care worker with an impaired immune system should be counseled about the potential risk associated with taking care of patients with any transmissible infection and should continue to follow existing recommendations for infection control to minimize risk of exposure to other infectious agents (*7,35*). Recommendations of the Immunization Practices Advisory Committee (ACIP) and institutional policies concerning requirements for vaccinating health-care workers with live-virus vaccines (e.g., measles, rubella) should also be considered.

The question of whether workers infected with HIV—especially those who perform invasive procedures—can adequately and safely be allowed to perform patient-care duties or whether their work assignments should be changed must be determined on an individual basis. These decisions should be made by the health-care worker's personal physician(s) in conjunction with the medical directors and personnel health service staff of the employing institution or hospital.

Management of Exposures

If a health-care worker has a parenteral (e.g., needlestick or cut) or mucous-membrane (e.g., splash to the eye or mouth) exposure to blood or other body fluids or has a cutaneous exposure involving large amounts of blood or prolonged contact with blood—especially when the exposed skin is chapped, abraded, or afflicted with dermatitis—the source patient should be informed of the incident and tested for serologic evidence of HIV infection after consent is obtained. Policies should be developed for testing source patients in situations in which consent cannot be obtained (e.g., an unconscious patient).

If the source patient has AIDS, is positive for HIV antibody, or refuses the test, the health-care worker should be counseled regarding the risk of infection and evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure. The health-care worker should be advised to report and seek medical evaluation for any acute febrile illness that occurs within 12 weeks after the exposure. Such an illness—particularly one characterized by fever, rash, or lymphadenopathy—may be indicative of recent HIV infection. Seronegative health-care workers should be retested 6 weeks post-exposure and on a periodic basis thereafter (e.g., 12 weeks and 6 months after exposure) to determine whether transmission has occurred. During this follow-up period—especially the first 6-12 weeks after exposure, when most infected persons are expected to seroconvert—exposed health-care workers should follow U.S. Public Health Service (PHS) recommendations for preventing transmission of HIV (*36,37*).

No further follow-up of a health-care worker exposed to infection as described above is necessary if the source patient is seronegative unless the source patient is at high risk of HIV infection. In the latter case, a subsequent specimen (e.g., 12 weeks following exposure) may be obtained from the health-care worker for antibody testing. If the source patient cannot be identified, decisions regarding appropriate follow-up should be individualized. Serologic testing should be available to all health-care workers who are concerned that they may have been infected with HIV.

If a patient has a parenteral or mucous-membrane exposure to blood or other body fluid of a health-care worker, the patient should be informed of the incident, and the same procedure outlined above for management of exposures should be followed for both the source health-care worker and the exposed patient.

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Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers

Acquired immunodeficiency syndrome (AIDS) among health-care workers in the United States results primarily from human immunodeficiency virus (HIV) infections that occur outside of the health-care setting. However, a small number of health-care workers have been infected with HIV through occupational exposures, and one such worker has developed AIDS after documented seroconversion. This report summarizes and updates both national surveillance data for AIDS among health-care workers and data from prospective studies on the risk of HIV transmission in the health-care setting.

Health-Care Workers with AIDS

The AIDS case report form used by CDC requests that state and local health departments collect information on employment since 1978 in a health-care or clinical laboratory setting. For surveillance purposes, any person who indicates such employment is classified as a health-care worker.

As of March 14, 1988, a total of 55,315 adults with AIDS had been reported to CDC. Occupational information was available for 47,532 of these persons, 2,586 (5.4%) of whom were classified as health-care workers. A similar proportion (5.7%) of the U.S. labor force was employed in health services (*1*).

Forty-six states, the District of Columbia, and Puerto Rico have reported health-care workers with AIDS. Like other AIDS patients, health-care workers with AIDS had a median age of 35 years. Males accounted for 91.6% of health-care workers with AIDS and 92.4% of other patients with AIDS. The majority of health-care workers with AIDS (62.8%) and of other AIDS patients (60.5%) were white.

Ninety-five percent of the health-care workers with AIDS were classified into known transmission categories (Table 1). Health-care workers with AIDS were significantly less likely than others with AIDS to be intravenous drug abusers and more likely to be homosexual or bisexual men. They were also less likely to have a known risk factor reported ($p < 0.001$).

TABLE 1. Comparison of health-care workers with AIDS and other AIDS patients reported to CDC, by transmission category – through March 14, 1988

	Health-Care Workers with AIDS		Other AIDS Patients	
Transmission Category	No.	(%)	No.	(%)
Homosexual or Bisexual Male	1,915	(74.1)*	28,820	(64.1)
Heterosexual Intravenous Drug Abuser	161	(6.2)*	8,263	(18.4)
Homosexual or Bisexual Male and Intravenous Drug Abuser	187	(7.2)	3,267	(7.3)
Hemophilia/Coagulation Disorder	20	(0.8)	451	(1.0)
Heterosexual	119	(4.6)	1,772	(3.9)
Blood/Blood Component Recipient	47	(1.8)	1,105	(2.5)
Other[†]	1	(<1.0)	0	(0.0)
Undetermined[§]	135	(5.3)*	1,268	(2.8)
Total	2,586	(100.0)	44,946	(100.0)

*$p < 0.001$, chi square analysis.

[†] Represents health-care worker who seroconverted to HIV and developed AIDS after documented needlestick exposure to blood.

[§] Includes patients who are under investigation, who died or refused interview, or for whom no risk was identified after follow-up.

To determine the possible cause of HIV infection, state and local health departments investigate those AIDS patients reported as having no identified risk. As of March 14, 1988, investigations had been completed for 121 of the 215 health-care workers initially reported with undetermined risk. Risk factors were identified for 80 (66.1%) of these. Of the 135 health-care workers who remain in the undetermined-risk category, 41 (30.4%) could not be reclassified after follow-up; 20 (14.8%) had either died or refused to be interviewed; and 74 (54.8%) are still under investigation.

Overall, 5.3% of health-care workers with AIDS had an undetermined risk. When examined by year of report to CDC, the proportion of such health-care workers appears to have increased from 1.5% in 1982 to 6.2% in 1987. However, 71 of the 135 health-care workers for whom risk is still undetermined have been reported since March 1987, and 80.0% of these 71 cases are still under investigation. The proportion of other AIDS patients with an undetermined risk has also increased over time. However, previous experience suggests that other risk factors for HIV infection will be identified for many of these persons when investigations have been completed (*2*). Ten percent of all reported AIDS patients with undetermined risk are health-care workers; this proportion has not changed over time.

A health-care worker reported to have developed AIDS after a well-documented occupational exposure to blood and HIV seroconversion is included among the 80 health-care workers who were reclassified after follow-up. The worker was accidentally self-injected with several milliliters of blood from a hospitalized patient with AIDS while filling a vacuum collection tube. Investigation revealed no other risk factors for this health-care worker.

Forty-one health-care workers could not be reclassified after investigation; 68.3% were men. In contrast, 23.0% of individuals employed in hospitals and health services in the United States are men (*1*). These 41 health-care workers comprised eight physicians, four of whom were surgeons; one dentist; five nurses; eleven nursing assistants or orderlies; seven housekeeping or maintenance workers; four clinical laboratory technicians; one respiratory therapist; one paramedic; one mortician; and two others who had no contact with patients or clinical specimens. A comparison of the occupations of these 41 health-care workers with those of health-care workers for whom risk factors and job information were available showed that maintenance workers were the only occupational group significantly more likely to have an undetermined risk (7 [17.1%] of 41 health-care workers with undetermined risk, compared with 160 [7.1%] of 2,263 health-care workers with identified risk, $p = 0.02$).

Seventeen of the 41 investigated health-care workers with undetermined risk (including two of the seven maintenance workers) reported needlestick and/or mucous-membrane exposures to the blood or body fluids of patients during the 10 years preceding their diagnosis of AIDS. However, none of the patients was known to be infected with HIV at the time of exposure, and none of the health-care workers was evaluated at the time of exposure to document seroconversion to HIV antibody. None of the remaining 24 health-care workers reported needlestick or other nonparenteral exposures to blood or body fluids.

Other Health-Care and Laboratory Workers with HIV Infection

As of December 31, 1987, 1,176 health-care workers had been enrolled and tested for HIV antibody in ongoing CDC surveillance of health-care workers exposed to blood or other body fluids from HIV-infected patients. Of the 1,070 workers tested >90 days after exposure, 870 (81.3%) had parenteral exposures to blood; 104 (9.7%) had exposures of mucous membrane or nonintact skin to blood; and 96 (9.0%) had exposures to other body fluids (Table 2).

TABLE 2. HIV infection among health-care workers, by type of exposure and body fluid — CDC Prospective Study, August 15, 1983–December 31, 1987

Type of Exposure	No. of Health-Care Workers with Exposure to				No. of Infections
	Blood	Saliva	Urine	Other/Unknown	
Parenteral (needlestick or cut with sharp object)	870	7	3	21	4*
Contamination of mucous-membrane, open wound, or nonintact skin	104	42	12	11	0

*All four health-care workers had parenteral exposure to HIV-infected blood; risk is 4/870, or 0.5% (upper bound of 95% confidence interval = 1.1%).

Four (0.5%) of the 870 workers with parenteral exposures to blood were seropositive for HIV antibody (upper bound of the 95% confidence interval [CI] = 1.1%). However, one of these four was not tested until 10 months after exposure (*3,4*). In addition, this worker had an HIV-seropositive sexual partner, and heterosexual acquisition of infection could not be excluded. Of the 489 health-care workers who sustained parenteral exposures to blood and for whom both acute- and convalescent-phase serum samples had been obtained, three, or 0.6%, seroconverted to HIV within 6 months of exposure (upper bound of the 95% CI = 1.6%) (*4-6*). Investigation revealed no nonoccupational risk factors for these three workers.

Two other ongoing prospective studies assess the risk of nosocomial acquisition of HIV infection among health-care workers in the United States (*7,8*). As of April 30, 1987, the National Institutes of Health had tested 103 health-care workers with documented needlestick injuries and 691 health-care workers with more than 2,000 cutaneous or mucous-membrane exposures to blood or other body fluids of HIV-infected patients; none had seroconverted (*7*). As of March 15, 1988, a similar study at the University of California of 235 health-care workers with 644 documented needlestick injuries or mucous-membrane exposures had identified one seroconversion following a needlestick (*9*; University of California, San Francisco, unpublished data). Prospective studies in the United Kingdom and Canada show no evidence of HIV transmission among 220 health-care workers with parenteral, mucous-membrane, or cutaneous exposures (*10,11*).

In addition to the health-care workers enrolled in these longitudinal surveillance studies and the case reported here, six persons from the United States and four persons from other countries who denied other risk factors for HIV infection have reportedly seroconverted to HIV after parenteral, nonintact skin, or mucous-membrane exposures to HIV-infected blood or concentrated virus in a health-care or laboratory setting (Table 3) (*12-20*). Six additional health-care workers with no other identified risk factors reportedly acquired HIV infection, but the date of seroconversion is unknown (*3,15,21-23*).

Reported by: AIDS Program, Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: These data are consistent with previous observations that the occupational risk of acquiring HIV in health-care settings is low and is most often associated with percutaneous inoculation of blood from a patient with HIV infection. Prospective surveillance studies, which provide data on the magnitude of the risk of HIV infection, indicate that the risk of seroconversion following needlestick exposures to blood from HIV-infected patients is less than 1.0%. The level of risk associated with

TABLE 3. HIV-infected health-care workers with no reported nonoccupational risk factors and for whom case histories have been published in the scientific literature

Cases with Documented Seroconversion

Case	Occupation	Country	Type of Exposure	Source	Reference
1*	NS†	United States	Needlestick	AIDS patient	This report
2	NS	United States	Needlestick	AIDS patient	(*4,6*)
3	NS	United States	Needlestick	AIDS patient	(*5*)
4	NS	United States	2 Needlesticks	AIDS patient, HIV-infected patient	(*5*)
5	NS	United States	Needlestick	AIDS patient	(*9*)
6	Nurse	England	Needlestick	AIDS patient	(*12*)
7	Nurse	France	Needlestick	HIV-infected patient	(*13*)
8	Nurse	Martinique	Needlestick	AIDS patient	(*14*)
9	Research lab worker	United States	Cut with sharp object	Concentrated virus	(*15,16*)
10	Home health-care provider	United States	Cutaneous§	AIDS patient	(*17*)
11	NS	United States	Nonintact skin	AIDS patient	(*18*)
12	Phlebotomist	United States	Mucous-membrane	HIV-infected patient	(*18*)
13	Technologist	United States	Nonintact skin	HIV-infected patient	(*18*)
14	NS	United States	Needlestick	AIDS patient	(*19*)
15	Nurse	Italy	Mucous-membrane	HIV-infected patient	(*20*)

Cases without Documented Seroconversion

Case	Occupation	Country	Type of Exposure	Source	Reference
1	NS	United States	Puncture wound	AIDS patient	(*3,4*)
2	NS	United States	2 Needlesticks	2 AIDS patients	(*3*)
3	Research lab worker	United States	Nonintact skin	Concentrated virus	(*15,16*)
4	Home health-care provider	England	Nonintact skin	AIDS patient	(*21*)
5	Dentist	United States	Multiple needlesticks	Unknown	(*22*)
6*	Technician	Mexico	Multiple needlesticks and mucous-membrane	Unknown	(*23*)
7	Lab worker	United States	Needlestick, puncture wound	Unknown	(*3*)

*Health-care worker diagnosed with AIDS.

†NS = not specified.

§Mother who provided nursing care for her child with HIV infection; extensive contact with the child's blood and body secretions and excretions occurred; the mother did not wear gloves and often did not wash her hands immediately after exposure.

the exposure of nonintact skin or mucous membranes is likely far less than that associated with needlestick exposures. Individual published case reports must be interpreted with caution because they provide no data on the frequency of occupational exposures to HIV or the proportion of exposures resulting in seroconversion.

The reasons that a higher proportion of health-care workers with AIDS have no identified risk than do other persons with AIDS are unknown. They could include a tendency of health-care workers not to report behavioral risk factors for HIV infection, the occupational risk of HIV infection as a result of blood exposure, or both. The first hypothesis is suggested by the overrepresentation of men among these health-care workers, a finding that is similar to the overrepresentation of men among AIDS patients infected with HIV through sexual activity or intravenous drug abuse. The second hypothesis is suggested by the documentation of HIV transmission in the health-care setting. Similar hypotheses may be raised for the apparent excess of maintenance personnel among health-care workers with no identified risk for AIDS. Occupationally acquired HIV infection in such workers would be difficult to determine unless the source patient or clinical specimen was known to be HIV-positive, the occupational exposure had been well documented, and the HIV seroconversion of the health-care worker had been detected.

The increasing number of persons being treated for HIV-associated illnesses makes it likely that more health-care workers will encounter patients infected with HIV. The risk of transmission of HIV can be minimized if health-care workers use care while performing all invasive procedures, adhere rigorously to previously published recommendations, and use universal precautions when caring for all patients (*5*). In addition, employers should instruct health-care workers on the need for routine use of universal precautions, provide equipment and clothing necessary to minimize the risk of infection, and monitor workers' adherence to these precautions (*5,24*).

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Perspectives in Disease Prevention and Health Promotion

Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-Care Settings

Introduction

The purpose of this report is to clarify and supplement the CDC publication entitled "Recommendations for Prevention of HIV Transmission in Health-Care Settings" (*1*).*

In 1983, CDC published a document entitled "Guideline for Isolation Precautions in Hospitals" (*2*) that contained a section entitled "Blood and Body Fluid Precautions." The recommendations in this section called for blood and body fluid precautions when a patient was known or suspected to be infected with bloodborne pathogens. In August 1987, CDC published a document entitled "Recommendations for Prevention of HIV Transmission in Health-Care Settings" (*1*). In contrast to the 1983 document, the 1987 document recommended that blood and body fluid precautions be consistently used for all patients regardless of their bloodborne infection status. This extension of blood and body fluid precautions to all patients is referred to as "Universal Blood and Body Fluid Precautions" or "Universal Precautions." Under universal precautions, blood and certain body fluids of all patients are considered potentially infectious for human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens.

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*The August 1987 publication should be consulted for general information and specific recommendations not addressed in this update.

Copies of this report and of the *MMWR* supplement entitled *Recommendations for Prevention of HIV Transmission in Health-Care Settings* published in August 1987 are available through the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850.

Universal precautions are intended to prevent parenteral, mucous membrane, and nonintact skin exposures of health-care workers to bloodborne pathogens. In addition, immunization with HBV vaccine is recommended as an important adjunct to universal precautions for health-care workers who have exposures to blood (*3,4*).

Since the recommendations for universal precautions were published in August 1987, CDC and the Food and Drug Administration (FDA) have received requests for clarification of the following issues: 1) body fluids to which universal precautions apply, 2) use of protective barriers, 3) use of gloves for phlebotomy, 4) selection of gloves for use while observing universal precautions, and 5) need for making changes in waste management programs as a result of adopting universal precautions.

Body Fluids to Which Universal Precautions Apply

Universal precautions apply to blood and to other body fluids containing visible blood. Occupational transmission of HIV and HBV to health-care workers by blood is documented (*4,5*). **Blood is the single most important source of HIV, HBV, and other bloodborne pathogens in the occupational setting. Infection control efforts for HIV, HBV, and other bloodborne pathogens must focus on preventing exposures to blood as well as on delivery of HBV immunization.**

Universal precautions also apply to semen and vaginal secretions. Although both of these fluids have been implicated in the sexual transmission of HIV and HBV, they have not been implicated in occupational transmission from patient to health-care worker. This observation is not unexpected, since exposure to semen in the usual health-care setting is limited, and the routine practice of wearing gloves for performing vaginal examinations protects health-care workers from exposure to potentially infectious vaginal secretions.

Universal precautions also apply to tissues and to the following fluids: cerebrospinal fluid (CSF), synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. The risk of transmission of HIV and HBV from these fluids is unknown; epidemiologic studies in the health-care and community setting are currently inadequate to assess the potential risk to health-care workers from occupational exposures to them. However, HIV has been isolated from CSF, synovial, and amniotic fluid (*6–8*), and HBsAg has been detected in synovial fluid, amniotic fluid, and peritoneal fluid (*9–11*). One case of HIV transmission was reported after a percutaneous exposure to bloody pleural fluid obtained by needle aspiration (*12*). Whereas aseptic procedures used to obtain these fluids for diagnostic or therapeutic purposes protect health-care workers from skin exposures, they cannot prevent penetrating injuries due to contaminated needles or other sharp instruments.

Body Fluids to Which Universal Precautions Do Not Apply

Universal precautions do not apply to feces, nasal secretions, sputum, sweat, tears, urine, and vomitus unless they contain visible blood. The risk of transmission of HIV and HBV from these fluids and materials is extremely low or nonexistent. HIV has been isolated and HBsAg has been demonstrated in some of these fluids; however, epidemiologic studies in the health-care and community setting have not implicated these fluids or materials in the transmission of HIV and HBV infections (*13,14*). Some of the above fluids and excretions represent a potential source for nosocomial and community-acquired infections with other pathogens, and recommendations for preventing the transmission of nonbloodborne pathogens have been published (*2*).

Precautions for Other Body Fluids in Special Settings

Human breast milk has been implicated in perinatal transmission of HIV, and HBsAg has been found in the milk of mothers infected with HBV (*10,13*). However, occupational exposure to human breast milk has not been implicated in the transmission of HIV nor HBV infection to health-care workers. Moreover, the health-care worker will not have the same type of intensive exposure to breast milk as the nursing neonate. Whereas universal precautions do not apply to human breast milk, gloves may be worn by health-care workers in situations where exposures to breast milk might be frequent, for example, in breast milk banking.

Saliva of some persons infected with HBV has been shown to contain HBV-DNA at concentrations 1/1,000 to 1/10,000 of that found in the infected person's serum (*15*). HBsAg-positive saliva has been shown to be infectious when injected into experimental animals and in human bite exposures (*16–18*). However, HBsAg-positive saliva has not been shown to be infectious when applied to oral mucous membranes in experimental primate studies (*18*) or through contamination of musical instruments or cardiopulmonary resuscitation dummies used by HBV carriers (*19,20*). Epidemiologic studies of nonsexual household contacts of HIV-infected patients, including several small series in which HIV transmission failed to occur after bites or after percutaneous inoculation or contamination of cuts and open wounds with saliva from HIV-infected patients, suggest that the potential for salivary transmission of HIV is remote (*5,13,14,21,22*). One case report from Germany has suggested the possibility of transmission of HIV in a household setting from an infected child to a sibling through a human bite (*23*). The bite did not break the skin or result in bleeding. Since the date of seroconversion to HIV was not known for either child in this case, evidence for the role of saliva in the transmission of virus is unclear (*23*). Another case report suggested the possibility of transmission of HIV from husband to wife by contact with saliva during kissing (*24*). However, follow-up studies did not confirm HIV infection in the wife (*21*).

Universal precautions do not apply to saliva. General infection control practices already in existence – including the use of gloves for digital examination of mucous membranes and endotracheal suctioning, and handwashing after exposure to saliva – should further minimize the minute risk, if any, for salivary transmission of HIV and HBV (*1,25*). Gloves need not be worn when feeding patients and when wiping saliva from skin.

Special precautions, however, are recommended for dentistry (*1*). Occupationally acquired infection with HBV in dental workers has been documented (*4*), and two possible cases of occupationally acquired HIV infection involving dentists have been reported (*5,26*). During dental procedures, contamination of saliva with blood is predictable, trauma to health-care workers' hands is common, and blood spattering may occur. Infection control precautions for dentistry minimize the potential for nonintact skin and mucous membrane contact of dental health-care workers to blood-contaminated saliva of patients. In addition, the use of gloves for oral examinations and treatment in the dental setting may also protect the patient's oral mucous membranes from exposures to blood, which may occur from breaks in the skin of dental workers' hands.

Use of Protective Barriers

Protective barriers reduce the risk of exposure of the health-care worker's skin or mucous membranes to potentially infective materials. For universal precautions, protective barriers reduce the risk of exposure to blood, body fluids containing visible blood, and other fluids to which universal precautions apply. Examples of protective barriers include gloves, gowns, masks, and protective eyewear. Gloves should reduce the incidence of contamination of hands, but they cannot prevent penetrating injuries due to needles or other sharp instruments. Masks and protective eyewear or face shields should reduce the incidence of contamination of mucous membranes of the mouth, nose, and eyes.

Universal precautions are intended to supplement rather than replace recommendations for routine infection control, such as handwashing and using gloves to prevent gross microbial contamination of hands (*27*). Because specifying the types of barriers needed for every possible clinical situation is impractical, some judgment must be exercised.

The risk of nosocomial transmission of HIV, HBV, and other bloodborne pathogens can be minimized if health-care workers use the following general guidelines:[†]

1. Take care to prevent injuries when using needles, scalpels, and other sharp instruments or devices; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing of used needles. Do not recap used needles by hand; do not remove used needles from disposable syringes by hand; and do not bend, break, or otherwise manipulate used needles by hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in puncture-resistant containers for disposal. Locate the puncture-resistant containers as close to the use area as is practical.
2. Use protective barriers to prevent exposure to blood, body fluids containing visible blood, and other fluids to which universal precautions apply. The type of protective barrier(s) should be appropriate for the procedure being performed and the type of exposure anticipated.
3. Immediately and thoroughly wash hands and other skin surfaces that are contaminated with blood, body fluids containing visible blood, or other body fluids to which universal precautions apply.

Glove Use for Phlebotomy

Gloves should reduce the incidence of blood contamination of hands during phlebotomy (drawing blood samples), but they cannot prevent penetrating injuries caused by needles or other sharp instruments. The likelihood of hand contamination with blood containing HIV, HBV, or other bloodborne pathogens during phlebotomy depends on several factors: 1) the skill and technique of the health-care worker, 2) the frequency with which the health-care worker performs the procedure (other factors being equal, the cumulative risk of blood exposure is higher for a health-care worker who performs more procedures), 3) whether the procedure occurs in a routine or emergency situation (where blood contact may be more likely), and 4) the prevalence of infection with bloodborne pathogens in the patient population. The likelihood of infection after skin exposure to blood containing HIV or HBV will depend on the concentration of virus (viral concentration is much higher for hepatitis B than for HIV), the duration of contact, the presence of skin lesions on the hands of the health-care worker, and — for HBV — the immune status of the health-care worker. Although not accurately quantified, the risk of HIV infection following intact skin contact with infective blood is certainly much less than the 0.5% risk following percutaneous needlestick exposures (*5*). In universal precautions, *all* blood is assumed to be potentially infective for bloodborne pathogens, but in certain settings (e.g., volunteer blood-donation centers) the prevalence of infection with some bloodborne pathogens (e.g., HIV, HBV) is known to be very low. Some institutions have relaxed recommendations for using gloves for phlebotomy procedures by skilled phlebotomists in settings where the prevalence of bloodborne pathogens is known to be very low.

[†] The August 1987 publication should be consulted for general information and specific recommendations not addressed in this update.

Institutions that judge that routine gloving for *all* phlebotomies is not necessary should periodically reevaluate their policy. Gloves should always be available to health-care workers who wish to use them for phlebotomy. In addition, the following general guidelines apply:

1. Use gloves for performing phlebotomy when the health-care worker has cuts, scratches, or other breaks in his/her skin.
2. Use gloves in situations where the health-care worker judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative patient.
3. Use gloves for performing finger and/or heel sticks on infants and children.
4. Use gloves when persons are receiving training in phlebotomy.

Selection of Gloves

The Center for Devices and Radiological Health, FDA, has responsibility for regulating the medical glove industry. Medical gloves include those marketed as sterile surgical or nonsterile examination gloves made of vinyl or latex. General purpose utility ("rubber") gloves are also used in the health-care setting, but they are not regulated by FDA since they are not promoted for medical use. There are no reported differences in barrier effectiveness between intact latex and intact vinyl used to manufacture gloves. Thus, the type of gloves selected should be appropriate for the task being performed.

The following general guidelines are recommended:

1. Use sterile gloves for procedures involving contact with normally sterile areas of the body.
2. Use examination gloves for procedures involving contact with mucous membranes, unless otherwise indicated, and for other patient care or diagnostic procedures that do not require the use of sterile gloves.
3. Change gloves between patient contacts.
4. Do not wash or disinfect surgical or examination gloves for reuse. Washing with surfactants may cause "wicking," i.e., the enhanced penetration of liquids through undetected holes in the glove. Disinfecting agents may cause deterioration.
5. Use general-purpose utility gloves (e.g., rubber household gloves) for housekeeping chores involving potential blood contact and for instrument cleaning and decontamination procedures. Utility gloves may be decontaminated and reused but should be discarded if they are peeling, cracked, or discolored, or if they have punctures, tears, or other evidence of deterioration.

Waste Management

Universal precautions are not intended to change waste management programs previously recommended by CDC for health-care settings (*1*). Policies for defining, collecting, storing, decontaminating, and disposing of infective waste are generally determined by institutions in accordance with state and local regulations. Information regarding waste management regulations in health-care settings may be obtained from state or local health departments or agencies responsible for waste management.

Reported by: Center for Devices and Radiological Health, Food and Drug Administration. Hospital Infections Program, AIDS Program, and Hepatitis Br, Div of Viral Diseases, Center for Infectious Diseases, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Implementation of universal precautions does not eliminate the need for other category- or disease-specific isolation precautions, such as enteric precautions for infectious diarrhea or isolation for pulmonary tuberculosis (*1,2*). In addition to universal precautions, detailed precautions have been developed for the following procedures and/or settings in which prolonged or intensive exposures to blood occur: invasive procedures, dentistry, autopsies or morticians' services, dialysis, and the clinical laboratory. These detailed precautions are found in the August 21, 1987, "Recommendations for Prevention of HIV Transmission in Health-Care Settings" (*1*). In addition, specific precautions have been developed for research laboratories (*28*).

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Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers

A Response to P.L. 100-607
The Health Omnibus Programs Extension
Act of 1988

U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control
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TABLE OF CONTENTS

I. **Introduction** 1
- A. Background 1
- B. Purpose and Organization of Document 1
- C. Modes and Risk of Virus Transmission in the Workplace 2
- D. Transmission of Hepatitis B Virus to Workers 3
  - 1. Health-care workers 3
  - 2. Emergency medical and public-safety workers 3
  - 3. Vaccination for hepatitis B virus 3
- E. Transmission of Human Immunodeficiency Virus to Workers 3
  - 1. Health-care workers with AIDS 3
  - 2. Human immunodeficiency virus transmission in the workplace 4
  - 3. Emergency medical service and public-safety workers 5

II. **Principles of Infection Control and Their Application to Emergency and Public-Safety Workers** 6
- A. General Infection Control 6
- B. Universal Blood and Body Fluid Precautions to Prevent Occupational HIV and HBV Transmission 6

III. **Employer Responsibilities** 8
- A. General 8
- B. Medical 8
  - 1. Hepatitis B vaccination 9
  - 2. Management of percutaneous exposure to blood and other infectious body fluids 9
    - a. Hepatitis B virus postexposure management 9
    - b. Human immunodeficiency virus postexposure management 9
  - 3. Management of human bites 10
  - 4. Documentation of exposure and reporting 10
  - 5. Management of HBV- or HIV-infected workers 11
- C. Disinfection, Decontamination, and Disposal 11
  - 1. Needle and sharps disposal 11
  - 2. Hand washing 12
  - 3. Cleaning, disinfecting, and sterilizing 12
  - 4. Cleaning and decontaminating spills of blood 12
  - 5. Laundry 12
  - 6. Decontamination and laundering of protective clothing 13
  - 7. Infective waste 13

IV. **Fire and Emergency Medical Services** 14
- A. Personal Protective Equipment 14
  - 1. Gloves 14
  - 2. Masks, eyewear, and gowns 15
  - 3. Resuscitation equipment 15

V. **Law-Enforcement and Correctional-Facility Officers** 16
- A. Law-Enforcement and Correctional-Facilities Considerations 16
  - 1. Fights and assaults 16
  - 2 Cardiopulmonary resuscitation 16
- B. Law-Enforcement Considerations 17
  - 1. Searches and evidence handling 17

2. Handling deceased persons and body removal 18
3. Autopsies 18
4. Forensic laboratories 18
C. Correctional-Facility Considerations 19
1. Searches 19
2. Decontamination and disposal 20

VI. References 21

I. Introduction

A. Background

This document is a response to recently enacted legislation, Public Law 100-607, The Health Omnibus Programs Extension Act of 1988, Title II, Programs with Respect to Acquired Immune Deficiency Syndrome ("AIDS Amendments of 1988"). Subtitle E, General Provisions, Section 253(a) of Title II specifies that "the Secretary of Health and Human Services, acting through the Director of the Centers for Disease Control, shall develop, issue, and disseminate guidelines to all health workers, public safety workers (including emergency response employees) in the United States concerning –

(1) methods to reduce the risk in the workplace of becoming infected with the etiologic agent for acquired immune deficiency syndrome; and

(2) circumstances under which exposure to such etiologic agent may occur."

It is further noted that "The Secretary [of Health and Human Services] shall transmit the guidelines issued under subsection (a) to the Secretary of Labor for use by the Secretary of Labor in the development of standards to be issued under the Occupational Safety and Health Act of 1970," and that "the Secretary, acting through the Director of the Centers for Disease Control, shall develop a model curriculum for emergency response employees with respect to the prevention of exposure to the etiologic agent for acquired immune deficiency syndrome during the process of responding to emergencies."

Following development of these guidelines and curriculum, "[t]he Secretary shall –

(A) transmit to State public health officers copies of the guidelines and the model curriculum developed under paragraph (1) with the request that such officers disseminate such copies as appropriate throughout the State; and

(B) make such copies available to the public."

B. Purpose and Organization of Document

The purpose of this document is to provide an overview of the modes of transmission of human immunodeficiency virus (HIV) in the workplace, an assessment of the risk of transmission under various assumptions, principles underlying the control of risk, and specific risk-control recommendations for employers and workers. This document also includes information on medical management of persons who have sustained an exposure at the workplace to these viruses (e.g., an emergency medical technicians who incur a needle-stick injury while performing professional duties). These guidelines are intended for use by a technically informed audience. As noted above, a separate model curriculum based on the principles and practices discussed in this document is being developed for use in training workers and will contain less technical wording.

Information concerning the protection of workers against acquisition of the human immunodeficiency virus (HIV) while performing job duties, the virus that causes AIDS, is presented here. Information on hepatitis B virus (HBV) is also presented in this document on the basis of the following assumptions:

- the modes of transmission for hepatitis B virus (HBV) are similar to those of HIV,
- the potential for HBV transmission in the occupational setting is greater than for HIV,
- there is a larger body of experience relating to controlling transmission of HBV in the workplace, and

- general practices to prevent the transmission of HBV will also minimize the risk of transmission of HIV.

Blood-borne transmission of other pathogens not specifically addressed here will be interrupted by adherence to the precautions noted below. It is important to note that the implementation of control measures for HIV and HBV does not obviate the need for continued adherence to general infection-control principles and general hygiene measures (e.g., hand washing) for preventing transmission of other infectious diseases to both worker and client. General guidelines for control of these diseases have been published (*1,2,3*).

This document was developed primarily to provide guidelines for fire-service personnel, emergency medical technicians, paramedics (see section IV, page 14), and law-enforcement and correctional-facility personnel (see section V, page 16). Throughout the report, paramedics and emergency medical technicians are called "emergency medical workers" and fire-service, law-enforcement, and correctional-facility personnel, "public-safety workers." Previously issued guidelines address the needs of hospital-, laboratory-, and clinic-based health-care workers and are reprinted in Appendix A (see page 31) and Appendix B (see page 36). A condensation of general guidelines for protection of workers from transmission of blood-borne pathogens, derived from the Joint Advisory Notice of the Departments of Labor and Health and Human Services (*4*), is provided in section III (see page 8).

C. Modes and Risk of Virus Transmission in the Workplace

Although the potential for HBV transmission in the workplace setting is greater than for HIV, the modes of transmission for these two viruses are similar. Both have been transmitted in occupational settings only by percutaneous inoculation or contact with an open wound, nonintact (e.g., chapped, abraded, weeping, or dermatitic) skin, or mucous membranes to blood, blood-contaminated body fluids, or concentrated virus. **Blood is the single most important source of HIV and HBV in the workplace setting.** Protection measures against HIV and HBV for workers should focus primarily on preventing these types of exposures to blood as well as on delivery of HBV vaccination.

The risk of hepatitis B infection following a parenteral (i.e., needle stick or cut) exposure to blood is directly proportional to the probability that the blood contains hepatitis B surface antigen (HBsAg), the immunity status of the recipient, and on the efficiency of transmission (*5*). The probability of the source of the blood being HBsAg positive varies from 1 to 3 per thousand in the general population to 5%–15% in groups at high risk for HBV infection, such as immigrants from areas of high endemicity (China and Southeast Asia, sub-Saharan Africa, most Pacific islands, and the Amazon Basin); clients in institutions for the mentally retarded; intravenous drug users; homosexually active males; and household (sexual and non-sexual) contacts of HBV carriers. Of persons who have not had prior hepatitis B vaccination or postexposure prophylaxis, 6%–30% of persons who receive a needle-stick exposure from an HBsAg-positive individual will become infected (*5*).

The risk of infection with HIV following one needle-stick exposure to blood from a patient known to be infected with HIV is approximately 0.5% (*6,7*). This rate of transmission is considerably lower than that for HBV, probably as a result of the significantly lower concentrations of virus in the blood of HIV-infected persons. Table 1 (see page 24) presents theoretical data concerning the likelihood of infection given repeated needle-stick injuries involving patients whose HIV serostatus is unknown. Though inadequately quantified, the risk from exposure of nonintact skin or mucous membranes is likely to be far less than that from percutaneous inoculation.

D. Transmission of Hepatitis B Virus to Workers

1. Health-care workers

In 1987, the CDC estimated the total number of HBV infections in the United States to be 300,000 per year, with approximately 75,000 (25%) of infected persons developing acute hepatitis. Of these infected individuals, 18,000–30,000 (6%-10%) will become HBV carriers, at risk of developing chronic liver disease (chronic active hepatitis, cirrhosis, and primary liver cancer), and infectious to others.

CDC has estimated that 12,000 health-care workers whose jobs entail exposure to blood become infected with HBV each year, that 500–600 of them are hospitalized as a result of that infection, and that 700–1,200 of those infected become HBV carriers. Of the infected workers, approximately 250 will die (12-15 from fulminant hepatitis, 170-200 from cirrhosis, and 40–50 from liver cancer). Studies indicate that 10%–30% of health-care or dental workers show serologic evidence of past or present HBV infection.

2. Emergency medical and public-safety workers

Emergency medical workers have an increased risk for hepatitis B infection (*8,9,10*). The degree of risk correlates with the frequency and extent of blood exposure during the conduct of work activities. A few studies are available concerning risk of HBV infection for other groups of public-safety workers (law-enforcement personnel and correctional-facility workers), but reports that have been published do not document any increased risk for HBV infection (*11,12,13*). Nevertheless, in occupational settings in which workers may be routinely exposed to blood or other body fluids as described below, an increased risk for occupational acquisition of HBV infection must be assumed to be present.

3. Vaccination for hepatitis B virus

A safe and effective vaccine to prevent hepatitis B has been available since 1982. Vaccination has been recommended for health-care workers regularly exposed to blood and other body fluids potentially contaminated with HBV (*5,14,15*). In 1987, the Department of Health and Human Services and the Department of Labor stated that hepatitis B vaccine should be provided to all such workers at no charge to the worker (*4*).

Available vaccines stimulate active immunity against HBV infection and provide over 90% protection against hepatitis B for 7 or more years following vaccination (*5*). Hepatitis B vaccines also are 70–88% effective when given within 1 week after HBV exposure. Hepatitis B immune globulin (HBIG), a preparation of immunoglobulin with high levels of antibody to HBV (anti-HBs), provides temporary passive protection following exposure to HBV. Combination treatment with hepatitis B vaccine and HBIG is over 90% effective in preventing hepatitis B following a documented exposure (*5*).

E. Transmission of Human Immunodeficiency Virus to Workers

1. Health-care workers with AIDS

As of September 19, 1988, a total of 3,182 (5.1%) of 61,929 adults with AIDS, who had been reported to the CDC national surveillance system and for whom occupational information was available, reported being employed in a health-care setting. Of the health-care workers with AIDS, 95%

reported high-risk behavior; for the remaining 5% (169 workers), the means of HIV acquisition was undetermined.

Of these 169 health-care workers with AIDS with undetermined risk, information is incomplete for 28 (17%) because of death or refusal to be interviewed; 97 (57%) are still being investigated. The remaining 44 (26%) health-care workers were interviewed directly or had other follow-up information available. The occupations of these 44 were nine nursing assistants (20%); eight physicians (18%), four of whom were surgeons; eight housekeeping or maintenance workers (18%); six nurses (14%); four clinical laboratory technicians (9%); two respiratory therapists (5%); one dentist (2%); one paramedic (2%); one embalmer (2%); and four others who did not have contact with patients (9%). Eighteen of these 44 health-care workers reported parenteral and/or other non-needle-stick exposure to blood or other body fluids from patients in the 10 years preceding their diagnosis of AIDS. None of these exposures involved a patient with AIDS or known HIV infection, and HIV seroconversion of the health-care worker was not documented following a specific exposure.

2. Human immunodeficiency virus transmission in the workplace

As of July 31, 1988, 1,201 health-care workers had been enrolled and tested for HIV antibody in ongoing CDC surveillance of health-care workers exposed via needle stick or splashes to skin or mucous membranes to blood from patients known to be HIV-infected (*16*). Of 860 workers who had received needle-stick injuries or cuts with sharp objects (i.e., parenteral exposures) and whose serum had been tested for HIV antibody at least 180 days after exposure, 4 were positive, yielding a seroprevalence rate of 0.47%. Three of these individuals experienced an acute retroviral syndrome associated with documented seroconversion. Investigation revealed no nonoccupational risk factors for these three workers. Serum collected within 30 days of exposure was not available from the fourth person. This worker had an HIV-seropositive sexual partner, and heterosexual acquisition of infection cannot be excluded. None of the 103 workers who had contamination of mucous membranes or nonintact skin and whose serum had been tested at least 180 days after exposure developed serologic evidence of HIV infection.

Two other ongoing prospective studies assess the risk of nosocomial acquisition of HIV infection among health-care workers in the United States. As of April 1988, the National Institutes of Health had tested 983 health-care workers, 137 with documented needle-stick injuries and 345 health-care workers who had sustained mucous-membrane exposures to blood or other body fluids of HIV-infected patients; none had seroconverted (*17*) (one health-care worker who subsequently experienced an occupational HIV seroconversion has since been reported from NIH [*18*]). As of March 15, 1988, a similar study at the University of California of 212 health-care workers with 625 documented accidental parenteral exposures involving HIV-infected patients had identified one seroconversion following a needle stick (*19*). Prospective studies in the United Kingdom and Canada show no evidence of HIV transmission among 220 health-care workers with parenteral, mucous-membrane, or cutaneous exposures (*20,21*).

In addition to the health-care workers enrolled in these longitudinal surveillance studies, case histories have been published in the scientific literature for 19 HIV-infected health-care workers (13 with documented seroconversion and 6 without documented seroconversion). None of these workers reported nonoccupational risk factors (see Table 2, pages 25, 26).

3. Emergency medical service and public-safety workers

In addition to the one paramedic with undetermined risk discussed above, three public-safety workers (law-enforcement officers) are classified in the undetermined risk group. Follow-up investigations of these workers could not determine conclusively if HIV infection was acquired during the performance of job duties.

II. Principles of Infection Control and Their Application to Emergency and Public-Safety Workers

A. General Infection Control

Within the health-care setting, general infection control procedures have been developed to minimize the risk of patient acquisition of infection from contact with contaminated devices, objects, or surfaces or of transmission of an infectious agent from health-care workers to patients (*1,2,3*). Such procedures also protect workers from the risk of becoming infected. General infection-control procedures are designed to prevent transmission of a wide range of microbiological agents and to provide a wide margin of safety in the varied situations encountered in the health-care environment.

General infection-control principles are applicable to other work environments where workers contact other individuals and where transmission of infectious agents may occur. The modes of transmission noted in the hospital and medical office environment are observed in the work situations of emergency and public-safety workers, as well. Therefore, the principles of infection control developed for hospital and other health-care settings are also applicable to these work situations. Use of general infection control measures, as adapted to the work environments of emergency and public-safety workers, is important to protect both workers and individuals with whom they work from a variety of infectious agents, not just HIV and HBV.

Because emergency and public-safety workers work in environments that provide inherently unpredictable risks of exposures, general infection-control procedures should be adapted to these work situations. Exposures are unpredictable, and protective measures may often be used in situations that do not appear to present risk. Emergency and public-safety workers perform their duties in the community under extremely variable conditions; thus, control measures that are simple and uniform across all situations have the greatest likelihood of worker compliance. Administrative procedures to ensure compliance also can be more readily developed than when procedures are complex and highly variable.

B. Universal Blood and Body Fluid Precautions to Prevent Occupational HIV and HBV Transmission

In 1985, CDC developed the strategy of "universal blood and body fluid precautions" to address concerns regarding transmission of HIV in the health-care setting (*6*). The concept, now referred to simply as "universal precautions" stresses that **all patients should be assumed to be infectious for HIV and other blood-borne pathogens**. In the hospital and other health-care setting, "universal precautions" should be followed when workers are exposed to blood, certain other body fluids (amniotic fluid, pericardial fluid, peritoneal fluid, pleural fluid, synovial fluid, cerebrospinal fluid, semen, and vaginal secretions), or any body fluid visibly contaminated with blood. Since HIV and HBV transmission has not been documented from exposure to other body fluids (feces, nasal secretions, sputum, sweat, tears, urine, and vomitus), "universal precautions" do not apply to these fluids. Universal precautions also do not apply to saliva, except in the dental setting, where saliva is likely to be contaminated with blood (see Appendix A, page 32).

For the purpose of this document, human "exposure" is defined as contact with blood or other body fluids to which universal precautions apply through percutaneous inoculation or contact with an open wound, nonintact skin, or mucous membrane during the performance of normal job duties. An "exposed worker" is defined, for the purposes of this document, as an individual exposed, as described above, while performing normal job duties.

The unpredictable and emergent nature of exposures encountered by emergency and public-safety workers may make differentiation between hazardous body fluids and those which are not hazardous very difficult and often impossible. For example, poor lighting may limit the worker's ability to detect visible blood in vomitus or feces. Therefore, **when emergency medical and public-safety workers encounter body fluids under uncontrolled, emergency circumstances in which differentiation between fluid types is difficult, if not impossible, they should treat all body fluids as potentially hazardous.**

The application of the principles of universal precautions to the situations encountered by these workers results in the development of guidelines (listed below) for work practices, use of personal protective equipment, and other protective measures. To minimize the risks of acquiring HIV and HBV during performance of job duties, emergency and public-safety workers should be protected from exposure to blood and other body fluids as circumstances dictate. Protection can be achieved through adherence to work practices designed to minimize or eliminate exposure and through use of personal protective equipment (i.e., gloves, masks, and protective clothing), which provide a barrier between the worker and the exposure source. In some situations, redesign of selected aspects of the job through equipment modifications or environmental control can further reduce risk. These approaches to primary prevention should be used together to achieve maximal reduction of the risk of exposure.

If exposure of an individual worker occurs, medical management, consisting of collection of pertinent medical and occupational history, provision of treatment, and counseling regarding future work and personal behaviors, may reduce risk of developing disease as a result of the exposure episode (*22*). Following episodic (or continuous) exposure, decontamination and disinfection of the work environment, devices, equipment, and clothing or other forms of personal protective equipment can reduce subsequent risk of exposures. Proper disposal of contaminated waste has similar benefits.

III. Employer Responsibilities

A. General

Detailed recommendations for employer responsibilities in protecting workers from acquisition of bloodborne diseases in the workplace have been published in the Department of Labor and Department of Health and Human Services Joint Advisory Notice and are summarized here (*4*). In developing programs to protect workers, employers should follow a series of steps: 1) classification of work activity, 2) development of standard operating procedures, 3) provision of training and education, 4) development of procedures to ensure and monitor compliance, and 5) workplace redesign. As a first step, every employer should classify work activities into one of three categories of potential exposure (see Table 3, page 27). Employers should make protective equipment available to all workers when they are engaged in Category I or II activities. Employers should ensure that the appropriate protective equipment is used by workers when they perform Category I activities.

As a second step, employers should establish a detailed work practices program that includes standard operating procedures (SOPs) for all activities having the potential for exposure. Once these SOPs are developed, an initial and periodic worker education program to assure familiarity with work practices should be provided to potentially exposed workers. No worker should engage in such tasks or activities before receiving training pertaining to the SOPs, work practices, and protective equipment required for that task. Examples of personal protective equipment for the prehospital setting (defined as a setting where delivery of emergency health care takes place away from a hospital or other health-care setting) are provided in Table 4 (page 28). (A curriculum for such training programs is being developed in conjunction with these guidelines and should be consulted for further information concerning such training programs.)

To facilitate and monitor compliance with SOPs, administrative procedures should be developed and records kept as described in the Joint Advisory Notice (*4*). Employers should monitor the workplace to ensure that required work practices are observed and that protective clothing and equipment are provided and properly used. The employer should maintain records documenting the administrative procedures used to classify job activities and copies of all SOPs for tasks or activities involving predictable or unpredictable exposure to blood or other body fluids to which universal precautions apply. In addition, training records, indicating the dates of training sessions, the content of those training sessions along with the names of all persons conducting the training, and the names of all those receiving training should also be maintained.

Whenever possible, the employer should identify devices and other approaches to modifying the work environment which will reduce exposure risk. Such approaches are desirable, since they don't require individual worker action or management activity. For example, jails and correctional facilities should have classification procedures that require the segregation of offenders who indicate through their actions or words that they intend to attack correctional-facility staff with the intent of transmitting HIV or HBV.

B. Medical

In addition to the general responsibilities noted above, the employer has the specific responsibility to make available to the worker a program of medical management. This program is designed to provide for the reduction of risk of infection by HBV and for counseling workers concerning issues regarding HIV and HBV. These services should be provided by a licensed health professional. All phases of medical management and counseling should ensure that the confidentiality of the worker's and client's medical data is protected.

1. Hepatitis B vaccination

   All workers whose jobs involve participation in tasks or activities with exposure to blood or other body fluids to which universal precautions apply (as defined above on page 6) should be vaccinated with hepatitis B vaccine.

2. Management of percutaneous exposure to blood and other infectious body fluids

   Once an exposure has occurred (as defined above on page 6), a blood sample should be drawn after consent is obtained from the individual from whom exposure occurred and tested for hepatitis B surface antigen (HBsAg) and antibody to human immunodeficiency virus (HIV antibody). Local laws regarding consent for testing source individuals should be followed. Policies should be available for testing source individuals in situations where consent cannot be obtained (e.g., an unconscious patient). Testing of the source individual should be done at a location where appropriate pretest counseling is available; posttest counseling and referral for treatment should be provided. It is extremely important that all individuals who seek consultation for any HIV-related concerns receive counseling as outlined in the "Public Health Service Guidelines for Counseling and Antibody Testing to Prevent HIV Infection and AIDS" (*22*).

   a. Hepatitis B virus postexposure management

      For an exposure to a source individual found to be positive for HBsAg, the worker who has not previously been given hepatitis B vaccine should receive the vaccine series. A single dose of hepatitis B immune globulin (HBIG) is also recommended, if this can be given within 7 days of exposure. For exposures from an HBsAg-positive source to workers who have previously received vaccine, the exposed worker should be tested for antibody to hepatitis B surface antigen (anti-HBs), and given one dose of vaccine and one dose of HBIG if the antibody level in the worker's blood sample is inadequate (i.e., < 10 SRU by RIA, negative by EIA) (*5*).

      If the source individual is negative for HBsAg and the worker has not been vaccinated, this opportunity should be taken to provide hepatitis B vaccination.

      If the source individual refuses testing or he/she cannot be identified, the unvaccinated worker should receive the hepatitis B vaccine series. HBIG administration should be considered on an individual basis when the source individual is known or suspected to be at high risk of HBV infection. Management and treatment, if any, of previously vaccinated workers who receive an exposure from a source who refuses testing or is not identifiable should be individualized (*5*).

   b. Human immunodeficiency virus postexposure management

      For any exposure to a source individual who has AIDS, who is found to be positive for HIV infection (as defined in Appendix B, see page 42), or who refuses testing, the worker should be counseled regarding the risk of infection and evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure. In view of the evolving nature of HIV postexposure management, the health-care provider should be well informed of current PHS guidelines on this subject. The worker should be advised to report and seek medical evaluation for any acute febrile illness that occurs within 12 weeks after the exposure. Such an illness, particularly one characterized by fever, rash, or lymphadenopathy, may be indicative of recent HIV infection. Following the initial test at the time of exposure, seronegative workers should be retested 6 weeks, 12 weeks, and 6 months after exposure to determine whether transmission has occurred. During this follow-up period (especially the first 6-12 weeks after exposure, when most infected persons are expected to seroconvert), exposed workers should follow U.S. Public Health Service (PHS) recommendations for preventing transmission of HIV (*22*). These include refraining from blood donation and using appropriate protection during sexual intercourse (*23*). During all phases of follow-up, it is vital that worker confidentiality be protected.

If the source individual was tested and found to be seronegative, baseline testing of the exposed worker with follow-up testing 12 weeks later may be performed if desired by the worker or recommended by the health-care provider.

If the source individual cannot be identified, decisions regarding appropriate follow-up should be individualized. Serologic testing should be made available by the employer to all workers who may be concerned they have been infected with HIV through an occupational exposure as defined above (see page 6).

3. Management of human bites

On occasion, police and correctional-facility officers are intentionally bitten by suspects or prisoners. When such bites occur, routine medical and surgical therapy (including an assessment of tetanus vaccination status) should be implemented as soon as possible, since such bites frequently result in infection with organisms other than HIV and HBV. Victims of bites should be evaluated as described above (see page 9) for exposure to blood or other infectious body fluids.

(As noted below in Appendix A, page 32, saliva of some persons infected with HBV has been shown to contain HBV-DNA at concentrations 1/1,000 to 1/10,000 of that found in the infected person's serum (*24*). HbsAg-positive saliva has been shown to be infectious when injected into experimental animals and in human bite exposures (*25–27*). However, HBsAg-positive saliva has not been shown to be infectious when applied to oral mucous membranes in experimental primate studies (*27*) or through contamination of musical instruments or cardiopulmonary resuscitation dummies used by HBV carriers (*28,29*). Epidemiologic studies of nonsexual household contacts of HIV-infected patients, including several small series in which HIV transmission failed to occur after bites or after percutaneous inoculation or contamination of cuts and open wounds with saliva from HIV-infected patients, suggest that the potential for salivary transmission of HIV is remote (*7,30,31,32,33*). One case report from Germany has suggested the possibility of transmission of HIV in a household setting from an infected child to a sibling through a human bite (*34*). The bite did not break the skin or result in bleeding. Since the date of seroconversion to HIV was not known for either child in this case, evidence for the role of saliva in the transmission of virus is unclear (*34*).)

4. Documentation of exposure and reporting

As part of the confidential medical record, the circumstances of exposure should be recorded. Relevant information includes the activity in which the worker was engaged at the time of exposure, the extent to which appropriate work practices and protective equipment were used, and a description of the source of exposure.

Employers have a responsibility under various federal and state laws and regulations to report occupational illnesses and injuries. Existing programs in the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services; the Bureau of Labor Statistics, Department of Labor (DOL); and the Occupational Safety and Health Administration (DOL) receive such information for the purposes of surveillance and other objectives. Cases of infectious disease, including AIDS and HBV infection, are reported to the Centers for Disease Control through State health departments.

5. Management of HBV- or HIV-infected workers

Transmission of HBV from health-care workers to patients has been documented. Such transmission has occurred during certain types of invasive procedures (e.g., oral and gynecologic surgery) in which health-care workers, when tested, had very high concentrations of HBV in their blood (at least 100 million infectious virus particles per milliliter, a concentration much higher than occurs with HIV infection), and the health-care workers sustained a puncture wound while performing invasive procedures or had exudative or weeping lesions or microlacerations that allowed virus to contaminate instruments or open wounds of patients (*35,36*). A worker who is HBsAg positive and who has transmitted hepatitis B virus to another individual during the performance of his or her job duties should be excluded from the performance of those job duties which place other individuals at risk for acquisition of hepatitis B infection.

Workers with impaired immune systems resulting from HIV infection or other causes are at increased risk of acquiring or experiencing serious complications of infectious disease. Of particular concern is the risk of severe infection following exposure to other persons with infectious diseases that are easily transmitted if appropriate precautions are not taken (e.g., measles, varicella). Any worker with an impaired immune system should be counseled about the potential risk associated with providing health care to persons with any transmissible infection and should continue to follow existing recommendations for infection control to minimize risk of exposure to other infectious agents (*2,3*). Recommendations of the Immunization Practices Advisory Committee (ACIP) and institutional policies concerning requirements for vaccinating workers with live-virus vaccines (e.g., measles, rubella) should also be considered.

The question of whether workers infected with HIV can adequately and safely be allowed to perform patient-care duties or whether their work assignments should be changed must be determined on an individual basis. These decisions should be made by the worker's personal physician(s) in conjunction with the employer's medical advisors.

C. Disinfection, Decontamination, and Disposal

As described in Section I.C. (see page 2), the only documented occupational risks of HIV and HBV infection are associated with parenteral (including open wound) and mucous membrane exposure to blood and other potentially infectious body fluids. Nevertheless, the precautions described below should be routinely followed.

1. Needle and sharps disposal

All workers should take precautions to prevent injuries caused by needles, scalpel blades, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments after procedures. To prevent needle-stick injuries, needles should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers for disposal; the puncture-resistant containers should be located as close as practical to the use area (e.g., in the ambulance or, if sharps are carried to the scene of victim assistance from the ambulance, a small puncture-resistant container should be carried to the scene, as well). Reusable needles should be left on the syringe body and should be placed in a puncture-resistant container for transport to the reprocessing area.

2. Hand washing

Hands and other skin surfaces should be washed immediately and thoroughly if contaminated with blood, other body fluids to which universal precautions apply, or potentially contaminated articles. Hands should always be washed after gloves are removed, even if the gloves appear to be intact. Hand washing should be completed using the appropriate facilities, such as utility or restroom sinks. Waterless antiseptic hand cleanser should be provided on responding units to use when hand-washing facilities are not available. When hand-washing facilities are available, wash hands with warm water and soap. When hand-washing facilities are not available, use a waterless antiseptic hand cleanser. The manufacturer's recommendations for the product should be followed.

3. Cleaning, disinfecting, and sterilizing

Table 5 (see pages 29, 30) presents the methods and applications for cleaning, disinfecting, and sterilizing equipment and surfaces in the prehospital setting. These methods also apply to housekeeping and other cleaning tasks. Previously issued guidelines for health-care workers contain more detailed descriptions of these procedures and may be found in Appendix B (see page 40).

4. Cleaning and decontaminating spills of blood

All spills of blood and blood-contaminated fluids should be promptly cleaned up using an EPA-approved germicide or a 1:100 solution of household bleach in the following manner **while wearing gloves**. Visible material should first be removed with disposable towels or other appropriate means that will ensure against direct contact with blood. If splashing is anticipated, protective eyewear should be worn along with an impervious gown or apron which provides an effective barrier to splashes. The area should then be decontaminated with an appropriate germicide. Hands should be washed following removal of gloves. Soiled cleaning equipment should be cleaned and decontaminated or placed in an appropriate container and disposed of according to agency policy. Plastic bags should be available for removal of contaminated items from the site of the spill.

Shoes and boots can become contaminated with blood in certain instances. Where there is massive blood contamination on floors, the use of disposable impervious shoe coverings should be considered. Protective gloves should be worn to remove contaminated shoe coverings. The coverings and gloves should be disposed of in plastic bags. A plastic bag should be included in the crime scene kit or the car which is to be used for the disposal of contaminated items. Extra plastic bags should be stored in the police cruiser or emergency vehicle.

5. Laundry

Although soiled linen may be contaminated with pathogenic microorganisms, the risk of actual disease transmission is negligible. Rather than rigid procedures and specifications, hygienic storage and processing of clean and soiled linen are recommended. Laundry facilities and/or services should be made routinely available by the employer. Soiled linen should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the linen. All soiled linen should be bagged at the location where it was used. Linen soiled with blood should be placed and transported in bags that prevent leakage. Normal laundry cycles should be used according to the washer and detergent manufacturers' recommendations.

6. Decontamination and laundering of protective clothing

Protective work clothing contaminated with blood or other body fluids to which universal precautions apply should be placed and transported in bags or containers that prevent leakage. Personnel involved in the bagging, transport, and laundering of contaminated clothing should wear gloves. Protective clothing and station and work uniforms should be washed and dried according to the manufacturer's instructions. Boots and leather goods may be brush-scrubbed with soap and hot water to remove contamination.

7. Infective waste

The selection of procedures for disposal of infective waste is determined by the relative risk of disease transmission and application of local regulations, which vary widely. **In all cases, local regulations should be consulted prior to disposal procedures and followed.** Infective waste, in general, should either be incinerated or should be decontaminated before disposal in a sanitary landfill. Bulk blood, suctioned fluids, excretions, and secretions may be carefully poured down a drain connected to a sanitary sewer, where permitted. Sanitary sewers may also be used to dispose of other infectious wastes capable of being ground and flushed into the sewer, where permitted. Sharp items should be placed in puncture-proof containers and other blood-contaminated items should be placed in leak-proof plastic bags for transport to an appropriate disposal location.

Prior to the removal of protective equipment, personnel remaining on the scene after the patient has been cared for should carefully search for and remove contaminated materials. Debris should be disposed of as noted above.

IV. Fire and Emergency Medical Services

The guidelines that appear in this section apply to fire and emergency medical services. This includes structural fire fighters, paramedics, emergency medical technicians, and advanced life support personnel. Fire fighters often provide emergency medical services and therefore encounter the exposures common to paramedics and emergency medical technicians. Job duties are often performed in uncontrolled environments, which, due to a lack of time and other factors, do not allow for application of a complex decision-making process to the emergency at hand.

The general principles presented here have been developed from existing principles of occupational safety and health in conjunction with data from studies of health-care workers in hospital settings. The basic premise is that workers must be protected from exposure to blood and other potentially infectious body fluids in the course of their work activities. There is a paucity of data concerning the risks these worker groups face, however, which complicates development of control principles. Thus, the guidelines presented below are based on principles of prudent public health practice.

Fire and emergency medical service personnel are engaged in delivery of medical care in the prehospital setting. The following guidelines are intended to assist these personnel in making decisions concerning use of personal protective equipment and resuscitation equipment, as well as for decontamination, disinfection, and disposal procedures.

A. Personal Protective Equipment

Appropriate personal protective equipment should be made available routinely by the employer to reduce the risk of exposure as defined above. For many situations, the chance that the rescuer will be exposed to blood and other body fluids to which universal precautions apply can be determined in advance. Therefore, if the chances of being exposed to blood is high (e.g., CPR, IV insertion, trauma, delivering babies), the worker should put on protective attire before beginning patient care. Table 4 (see page 28) sets forth examples of recommendations for personal protective equipment in the prehospital setting; the list is not intended to be all-inclusive.

1. Gloves

Disposable gloves should be a standard component of emergency response equipment, and should be donned by all personnel prior to initiating any emergency patient care tasks involving exposure to blood or other body fluids to which universal precautions apply. Extra pairs should always be available. Considerations in the choice of disposable gloves should include dexterity, durability, fit, and the task being performed. Thus, there is no single type or thickness of glove appropriate for protection in all situations. For situations where large amounts of blood are likely to be encountered, it is important that gloves fit tightly at the wrist to prevent blood contamination of hands around the cuff. For multiple trauma victims, gloves should be changed between patient contacts, if the emergency situation allows.

Greater personal protective equipment measures are indicated for situations where broken glass and sharp edges are likely to be encountered, such as extricating a person from an automobile wreck. Structural fire-fighting gloves that meet the Federal OSHA requirements for fire-fighters gloves (as contained in 29 CFR 1910.156 or National Fire Protection Association Standard 1973, Gloves for Structural Fire Fighters) should be worn in any situation where sharp or rough surfaces are likely to be encountered (*37*).

While wearing gloves, avoid handling personal items, such as combs and pens, that could become soiled or contaminated. Gloves that have become contaminated with blood or other body fluids to which universal precautions apply should be removed as soon as possible, taking care to avoid skin contact with the exterior surface. Contaminated gloves should be placed and transported in bags that prevent leakage and should be disposed of or, in the case of reusable gloves, cleaned and disinfected properly.

2. Masks, eyewear, and gowns

Masks, eyewear, and gowns should be present on all emergency vehicles that respond or potentially respond to medical emergencies or victim rescues. These protective barriers should be used in accordance with the level of exposure encountered. Minor lacerations or small amounts of blood do not merit the same extent of barrier use as required for exsanguinating victims or massive arterial bleeding. Management of the patient who is not bleeding, and who has no bloody body fluids present, should not routinely require use of barrier precautions. Masks and eyewear (e.g., safety glasses) should be worn together, or a faceshield should be used by all personnel prior to any situation where splashes of blood or other body fluids to which universal precautions apply are likely to occur. Gowns or aprons should be worn to protect clothing from splashes with blood. If large splashes or quantities of blood are present or anticipated, impervious gowns or aprons should be worn. An extra change of work clothing should be available at all times.

3. Resuscitation equipment

No transmission of HBV or HIV infection during mouth-to-mouth resuscitation has been documented. However, because of the risk of salivary transmission of other infectious diseases (e.g., *Herpes simplex* and *Neisseria meningitidis*) and the theoretical risk of HIV and HBV transmission during artificial ventilation of trauma victims, disposable airway equipment or resuscitation bags should be used. Disposable resuscitation equipment and devices should be used once and disposed of or, if reusable, thoroughly cleaned and disinfected after each use according to the manufacturer's recommendations.

Mechanical respiratory assist devices (e.g., bag-valve masks, oxygen demand valve resuscitators) should be available on all emergency vehicles and to all emergency response personnel that respond or potentially respond to medical emergencies or victim rescues.

Pocket mouth-to-mouth resuscitation masks designed to isolate emergency response personnel (i.e., double lumen systems) from contact with victims' blood and blood-contaminated saliva, respiratory secretions, and vomitus should be provided to all personnel who provide or potentially provide emergency treatment.

V. Law-Enforcement and Correctional-Facility Officers

Law-enforcement and correctional-facility officers may face the risk of exposure to blood during the conduct of their duties. For example, at the crime scene or during processing of suspects, law-enforcement officers may encounter blood-contaminated hypodermic needles or weapons, or be called upon to assist with body removal. Correctional-facility officers may similarly be required to search prisoners or their cells for hypodermic needles or weapons, or subdue violent and combative inmates.

The following section presents information for reducing the risk of acquiring HIV and HBV infection by law-enforcement and correctional-facility officers as a consequence of carrying out their duties. However, there is an extremely diverse range of potential situations which may occur in the control of persons with unpredictable, violent, or psychotic behavior. Therefore, informed judgment of the individual officer is paramount when unusual circumstances or events arise. These recommendations should serve as an adjunct to rational decision making in those situations where specific guidelines do not exist, particularly where immediate action is required to preserve life or prevent significant injury.

The following guidelines are arranged into three sections: a section addressing concerns shared by both law-enforcement and correctional-facility officers, and two sections dealing separately with law-enforcement officers and correctional-facility officers, respectively. Table 4 (see page 28) contains selected examples of personal protective equipment that may be employed by law-enforcement and correctional-facility officers.

A. Law-Enforcement and Correctional-Facilities Considerations

1. Fights and assaults

Law-enforcement and correctional-facility officers are exposed to a range of assaultive and disruptive behavior through which they may potentially become exposed to blood or other body fluids containing blood. Behaviors of particular concern are biting, attacks resulting in blood exposure, and attacks with sharp objects. Such behaviors may occur in a range of law-enforcement situations including arrests, routine interrogations, domestic disputes, and lockup operations, as well as in correctional-facility activities. Hand-to-hand combat may result in bleeding and may thus incur a greater chance for blood-to-blood exposure, which increases the chances for blood-borne disease transmission.

Whenever the possibility for exposure to blood or blood-contaminated body fluids exists, the appropriate protection should be worn, if feasible under the circumstances. In all cases, extreme caution must be used in dealing with the suspect or prisoner if there is any indication of assaultive or combative behavior. When blood is present and a suspect or an inmate is combative or threatening to staff, gloves should always be put on as soon as conditions permit. In case of blood contamination of clothing, an extra change of clothing should be available at all times.

2. Cardiopulmonary resuscitation

Law-enforcement and correctional personnel are also concerned about infection with HIV and HBV through administration of cardiopulmonary resuscitation (CPR). Although there have been no documented cases of HIV transmission through this mechanism, the possibility of transmission of other infectious diseases exists. Therefore, agencies should make protective masks or airways available to officers and provide training in their proper use. Devices with one-way valves to prevent the patients' saliva or vomitus from entering the caregiver's mouth are preferable.

B. Law-Enforcement Considerations

1. Searches and evidence handling

Criminal justice personnel have potential risks of acquiring HBV or HIV infection through exposures which occur during searches and evidence handling. Penetrating injuries are known to occur, and puncture wounds or needle sticks in particular pose a hazard during searches of persons, vehicles, or cells, and during evidence handling. The following precautionary measures will help to reduce the risk of infection:

- An officer should use great caution in searching the clothing of suspects. Individual discretion, based on the circumstances at hand, should determine if a suspect or prisoner should empty his own pockets or if the officer should use his own skills in determining the contents of a suspect's clothing.
- A safe distance should always be maintained between the officer and the suspect.
- Wear protective gloves if exposure to blood is likely to be encountered.
- Wear protective gloves for all body cavity searches.
- If cotton gloves are to be worn when working with evidence of potential latent fingerprint value at the crime scene, they can be worn over protective disposable gloves when exposure to blood may occur.
- Always carry a flashlight, even during daylight shifts, to search hidden areas. Whenever possible, use long-handled mirrors and flashlights to search such areas (e.g., under car seats).
- If searching a purse, carefully empty contents directly from purse, by turning it upside down over a table.
- Use puncture-proof containers to store sharp instruments and clearly marked plastic bags to store other possibly contaminated items.
- To avoid tearing gloves, use evidence tape instead of metal staples to seal evidence.
- Local procedures for evidence handling should be followed. In general, items should be air dried before sealing in plastic.

Not all types of gloves are suitable for conducting searches. Vinyl or latex rubber gloves provide little protection against sharp instruments, and they are not puncture-proof. There is a direct trade-off between level of protection and manipulability. In other words, the thicker the gloves, the more protection they provide, but the less effective they are in locating objects. Thus, there is no single type or thickness of glove appropriate for protection in all situations. Officers should select the type and thickness of glove which provides the best balance of protection and search efficiency.

Officers and crime scene technicians may confront unusual hazards, especially when the crime scene involves violent behavior, such as a homicide where large amounts of blood are present. Protective gloves should be available and worn in this setting. In addition, for very large spills, consideration should be given to other protective clothing, such as overalls, aprons, boots, or protective shoe covers.

They should be changed if torn or soiled, and always removed prior to leaving the scene. While wearing gloves, avoid handling personal items, such as combs and pens, that could become soiled or contaminated.

Face masks and eye protection or a face shield are required for laboratory and evidence technicians whose jobs which entail potential exposures to blood via a splash to the face, mouth, nose, or eyes.

Airborne particles of dried blood may be generated when a stain is scraped. It is recommended that protective masks and eyewear or face shields be worn by laboratory or evidence technicians when removing the blood stain for laboratory analyses.

While processing the crime scene, personnel should be alert for the presence of sharp objects such as hypodermic needles, knives, razors, broken glass, nails, or other sharp objects.

2. Handling deceased persons and body removal

For detectives, investigators, evidence technicians, and others who may have to touch or remove a body, the response should be the same as for situations requiring CPR or first aid: wear gloves and cover all cuts and abrasions to create a barrier and carefully wash all exposed areas after any contact with blood. The precautions to be used with blood and deceased persons should also be used when handling amputated limbs, hands, or other body parts. Such procedures should be followed after contact with the blood of **anyone**, regardless of whether they are known or suspected to be infected with HIV or HBV.

3. Autopsies

Protective masks and eyewear (or face shields), laboratory coats, gloves, and waterproof aprons should be worn when performing or attending all autopsies. All autopsy material should be considered infectious for both HIV and HBV. Onlookers with an opportunity for exposure to blood splashes should be similarly protected. Instruments and surfaces contaminated during postmortem procedures should be decontaminated with an appropriate chemical germicide following recommendations in Appendix B, page 40. Many laboratories have more detailed standard operating procedures for conducting autopsies; where available, these should be followed. (More detailed recommendations for health-care workers in this setting are found in Appendix B, page 39.)

4. Forensic laboratories

Blood from **all** individuals should be considered infective. To supplement other worksite precautions, the following precautions are recommended for workers in forensic laboratories.

a. All specimens of blood should be put in a well-constructed, appropriately labelled container with a secure lid to prevent leaking during transport. Care should be taken when collecting each specimen to avoid contaminating the outside of the container and of the laboratory form accompanying the specimen.

b. All persons processing blood specimens should wear gloves. Masks and protective eyewear or face shields should be worn if mucous-membrane contact with blood is anticipated (e.g., removing tops from vacuum tubes). Hands should be washed after completion of specimen processing.

c. For routine procedures, such as histologic and pathologic studies or microbiological culturing, a biological safety cabinet is not necessary. However, biological safety cabinets (Class I or II) should be used whenever procedures are conducted that have a high potential for generating droplets. These include activities such as blending, sonicating, and vigorous mixing.

d. Mechanical pipetting devices should be used for manipulating all liquids in the laboratory. Mouth pipetting must not be done.

e. Use of needles and syringes should be limited to situations in which there is no alternative, and the recommendations for preventing injuries with needles outlined under universal precautions should be followed.

f. Laboratory work surfaces should be cleaned of visible materials and then decontaminated with an appropriate chemical germicide after a spill of blood, semen, or blood-contaminated body fluid and when work activities are completed.

g. Contaminated materials used in laboratory tests should be decontaminated before reprocessing or be placed in bags and disposed of in accordance with institutional and local regulatory policies for disposal of infective waste.

h. Scientific equipment that has been contaminated with blood should be cleaned and then decontaminated before being repaired in the laboratory or transported to the manufacturer.

i. All persons should wash their hands after completing laboratory activities and should remove protective clothing before leaving the laboratory.

j. Area posting of warning signs should be considered to remind employees of continuing hazard of infectious disease transmission in the laboratory setting.

C. Correctional-Facility Considerations

1. Searches

Penetrating injuries are known to occur in the correctional-facility setting, and puncture wounds or needle sticks in particular pose a hazard during searches of prisoners or their cells. The following precautionary measures will help to reduce the risk of infection:

- A correctional-facility officer should use great caution in searching the clothing of prisoners. Individual discretion, based on the circumstances at hand, should determine if a prisoner should empty his own pockets or if the officer should use his own skills in determining the contents of a prisoner's clothing.
- A safe distance should always be maintained between the officer and the prisoner.
- Always carry a flashlight, even during daylight shifts, to search hidden areas. Whenever possible, use long-handled mirrors and flashlights to search such areas (e.g., under commodes, bunks, and in vents in jail cells).
- Wear protective gloves if exposure to blood is likely to be encountered.

- Wear protective gloves for all body cavity searches.

Not all types of gloves are suitable for conducting searches. Vinyl or latex rubber gloves can provide little, if any, protection against sharp instruments, and they are not puncture-proof. There is a direct trade-off between level of protection and manipulability. In other words, the thicker the gloves, the more protection they provide, but the less effective they are in locating objects. Thus, there is no single type or thickness of glove appropriate for protection in all situations. Officers should select the type and thickness of glove which provides the best balance of protection and search efficiency.

2. Decontamination and disposal

Prisoners may spit at officers and throw feces; sometimes these substances have been purposefully contaminated with blood. Although there are no documented cases of HIV or HBV transmission in this manner and transmission by this route would not be expected to occur, other diseases could be transmitted. These materials should be removed with a paper towel after donning gloves, and the area then decontaminated with an appropriate germicide. Following clean-up, soiled towels and gloves should be disposed of properly.

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CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

Additional Resources

"Acquired Immune Deficiency Syndrome (AIDS): Precautions for Clinical and Laboratory Staffs," MMWR November 5, 1982.

"Acquired Immunodeficiency Syndrome (AIDS): Precautions for Health-Care Workers and Allied Professionals," MMWR September 2, 1983.

"Recommendations for Preventing Possible Transmission of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus from Tears," MMWR August 30, 1985.

"Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus during Invasive Procedures," MMWR April 11, 1986.

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"Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus: Agent Summary Statement," MMWR August 29, 1986.

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"Guidelines for Effective School Health Education to Prevent the Spread of AIDS," MMWR January 29, 1988.

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** "Public Health Service Statement on Management of Occupational Exposure to Human Immunodeficiency Virus, Including Considerations Regarding Zidovudine Postexposure Use," MMWR January 26, 1990.

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** "Possible Transmission of Human Immunodeficiency Virus to a Patient During an Invasive Dental Procedures," MMWR July 27, 1990.

** "Update: Transmission of HIV Infection During an Invasive Dental Procedure -- Florida," MMWR January 18, 1991.

** "Mortality Attributable to HIV Infection/AIDS -- United States, 1981-1990," MMWR January 18, 1991.

** "Draft: Estimates of the Risk of Endemic Transmission of Hepatitis B Virus and Human Immunodeficiency Virus to Patients by the Percutaneous Route During Invasive Surgical and Dental Procedures," prepared by CDC, January 30, 1991.

MMWR is an abbreviation for Morbidity and Mortality Weekly Report, a publication of the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control. Copies of MMWR should be available from any medical library. Copies of most MMWR articles dealing with AIDS are also available from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, Maryland 20850; 800/458-5231.

** The full text of this CDC document is included elsewhere in this Compendium.

ASSOCIATION POSITION STATEMENTS

Responding to HIV Infection and AIDS: Campus Assessment Inventory

◆

Inter-Association Task Force on HIV Infection and AIDS

American Association for Counseling and Development
American College Health Association
American College Personnel Association
Association of College and University Housing Officers - International
Association of Governing Boards of Universities and Colleges
National Association for Foreign Student Affairs: Association of International Educators
National Association of Student Personnel Administrators

The Inter-Association Task Force on HIV Infection and AIDS has developed this Campus Assessment Inventory to assist colleges and universities in developing, promoting, and monitoring effective programs of prevention and services related to the epidemic of HIV infection and AIDS. In endorsing this document, the boards of directors of the participating associations recognize the serious and significant impact that HIV infections have on campus communities. A clear understanding of the nature of HIV infection, the means of preventing it, and the resources necessary to provide appropriate and compassionate services for persons affected by the infection are the responsibility of each institution of higher education.

The issues raised by HIV infection are difficult and controversial on many campuses. Nonetheless, the responsibility of each institution to address needs in policy, prevention, and services requires that concerned individuals seek common ground in resolving conflicts between personal attitudes and public health requirements.

Each college or university should determine for itself the best methods of providing appropriate and effective education and prevention programs, and clinical, psychological, and social support services related to HIV infection.

This Campus Assessment Inventory provides a list of suggestions; it is not all-inclusive. Each institution may develop additional approaches and programs that effectively meet the particular needs identified on its campus. Programs that function well in one setting may not work in others. With this diversity of institutions, programs, and needs in mind, the Inter-Association Task Force on HIV Infection and AIDS offers the following checklist.

CAMPUS/INSTITUTIONAL CLIMATE

☐ Identify appropriate mechanisms and channels through which to inform the campus community that HIV infection and AIDS are campus problems and concerns.

☐ Involve senior institutional officers and members of the governing board in an educational program about HIV infection and AIDS, and provide updated information when appropriate.

American Association for Counseling and Development · American College Health Association · acpa · acuho INTERNATIONAL · AGB · NAFSA · NASPA

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☐ Create an institutionwide task force or committee to address specific policy and program issues related to HIV infection on the campus and monitor the institution's response to those issues.

☐ Define ways to communicate the institution's commitment to providing effective support for people in the campus community who are affected by HIV infection and to protecting their rights to privacy and confidentiality of medical information.

☐ Assign a specific institutional officer to serve as the public relations spokesperson for the campus on matters related to HIV infection.

☐ Develop a formal working relationship between campus health, counseling, and health education officers and representatives from the community's public health department, school system, other post-secondary institutions, and health care agencies to address issues related to HIV infection on campus and in the community.

POLICY

☐ Write and publish a policy statement that clearly and articulately addresses the issues of and responses to HIV infection in the campus community.

☐ Address concerns related to these areas in the policy statement:

- Access to facilities
- Admissions
- Athletic programs
- Confidentiality
- Health insurance
- HIV antibody testing and counseling
- Housing
- Job status/promotions
- Legal liability
- Occupational safety
- Public health requirements
- Public relations
- Treatment

☐ Disseminate the policy statement to all members of the campus community.

☐ Review the policy statement periodically to accommodate new information, changes in statutes, or innovative approaches and strategies in responding to campus needs.

☐ Ensure that the institution does not discriminate in policy or in practice against individuals who have, or are considered to have, or are felt to be "at risk" for HIV infection, or against individuals who associate with any of those persons.

☐ Review institutional health insurance programs to determine the appropriate types and levels of coverage to be offered to students, faculty, and staff.

EDUCATION AND PREVENTION PROGRAMS

☐ Appoint an appropriate campus officer or agency to assume primary responsibility for a campuswide program of education and prevention of HIV infection.

☐ Provide an opportunity for all members of the campus community to participate in education sessions addressing issues related to HIV infection. These sessions should be easily available and accessible.

☐ Include in information and education programs on at least the following topics:

- Alcohol and drugs and unsafe sex
- Confidentiality
- Donating and receiving blood
- HIV antibody testing and counseling
- Needle sharing
- Preventing HIV infection
- Reducing fear
- Referral for treatment or social services
- Relation of HIV to other sexually transmitted diseases (STDs)
- Risk behaviors
- Transmission of HIV
- Use of condoms in safer sex

☐ Emphasize the following strategies in the campus educational program:

- Building self-esteem
- Clarifying and understanding values
- Coping with the fear of HIV and AIDS
- Dealing with controversial topics and language
- Developing skills in confronting and resolving risk-producing behaviors in intimate relationships
- Involving peers in preventing sexually transmitted diseases

☐ Provide current data on national, regional, and local statistics related to prevalence, acquisition, and treatment of HIV infection.

☐ Integrate information about HIV infection into academic curriculum and health education programs offered to the campus community.

☐ Evaluate the educational program periodically and improve it as better strategies and techniques become available.

HIV ANTIBODY TESTING

☐ Disseminate information regarding the purposes, local sources, limitations, and value of HIV antibody testing to all members of the campus community.

☐ Inform people who provide health care and counseling services to students or employees about local HIV antibody testing services.

☐ Design a campus policy concerning handling of HIV antibody test results in accordance with the highest professional standards of confidentiality of medical information and with relevant state and national statutes.

☐ Decide how the institution will respond to questions from the public and the media about aggregate results from HIV antibody testing programs on campus.

☐ Refuse either comprehensive or random HIV antibody testing of members of the campus community without specific individual consent in advance except in the setting of blinded, anonymous seroprevalence research studies that have been approved by the institution's human investigation committee.

TREATMENT, SERVICES, AND REFERRALS

☐ Develop either on-campus or referral resources for appropriate medical, nursing, laboratory, psychological, and social services for students or employees who are concerned about or affected by HIV infection.

☐ Provide HIV-related services at a level commensurate with the services provided for students and employees with other illnesses.

☐ Advise and update key campus personnel of the availability of medical, nursing, laboratory, psychological, and social assistance or other support services related to HIV infection.

Include at least these personnel:
- Academic advisors
- Athletic program staff
- Counselors
- Employee assistance staff
- Faculty
- Health center staff
- Peer educators
- Personnel office staff
- Public relations staff
- Residence hall staff
- Senior administrators
- Student leaders
- Union/shop stewards

☐ Disseminate information about resources for the following special services:
- Counseling and psychological services for people who are considering HIV antibody testing
- Disability accommodations
- Support groups for people with HIV infection
- Support groups for people concerned about others who have HIV infection
- Medical services for early intervention in HIV infection

SPECIAL STUDENT POPULATIONS

☐ Develop specific, sensitive, HIV-related education, prevention, and intervention programs that address the particular needs of the following groups of students:
- Athletes
- Gay, lesbian, and bisexual students
- International students
- Non-traditional undergraduates
- People of color
- U.S. students studying abroad
- Women

☐ Encourage members of these groups of students and representatives of campus health, counseling, and health education staff to collaborate in developing appropriate, culturally sensitive HIV-related education, prevention, and intervention programs.

☐ Involve members of all the groups listed above in developing the institution's HIV-related policies and programs and in evaluating the effectiveness of those efforts.

☐ Respond effectively and publicly to harassment or violence against any student; confront examples of racism, sexism, and homophobia on the campus.

☐ Provide culturally sensitive and country-specific health information on HIV infection and AIDS in all orientation programs for international students and for U.S. students or faculty traveling or studying abroad.

☐ Determine that HIV/AIDS education programs will be scheduled and advertised in such a way as to make them accessible and available to all full- and part-time students.

SAFETY IN THE WORKPLACE AND IN THE ENVIRONMENT

☐ Review workplace safety standards provided by the Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control (CDC) to assure that the institution is in full compliance.

☐ Provide information, training, and appropriate protective materials to all employees and students whose academic or occupational responsibilities may involve potential exposure to HIV. Especially, require and document attendance at workplace safety programs by:

- Athletic trainers
- Emergency medical personnel
- Health care professions students
- Health care providers
- Housekeeping staff
- Public safety officers
- Research laboratory staff

☐ Emphasize the importance of "universal precautions," which involve taking precautions in all situations of possible exposure to the blood or body fluids of any person, in workplace safety programs.

☐ Define and address the specific issues of workplace safety of each student and employee group; for example:

- Disinfection of mats or other surfaces, for athletic trainers
- Needle safety precautions, for health care providers and health care professions students
- Separating trash, for maintenance or housekeeping staff

☐ Train faculty to provide workplace safety information to students in academic settings such as teaching or research laboratories.

☐ Inform all students and employees of procedures to be followed if they feel they may have been exposed to HIV infection in the workplace.

☐ Assure that athletic trainers take appropriate precautions to prevent transmission of HIV in handling injuries and accidents in practice or play; assure that information about needle-associated transmission of HIV in connection with anabolic steroids is provided to all athletes.

☐ Develop a policy regarding financial and follow-up responsibility for job-related exposure to HIV infection; define responsibility to employees or students who are not covered by workers' compensation laws.

☐ Review health insurance benefits for students and employees to assure proper coverage for job-related HIV infection.

CONCLUSION

In developing this Campus Assessment Inventory, the representatives of the participating associations have worked together as a concerned team, merging their specific skills and experience to define a comprehensive campus response to the needs of students or employees who have concerns about HIV infection and AIDS. Similarly, on each campus, reasonable policies and effective programs will arise from the synergistic efforts of many individuals in different agencies and groups. We offer the suggestions in this checklist as both encouragement and guidance.

RESOURCES

The appendix is the American College Health Association's model campus policy statement, the *General Statement on Institutional Response to AIDS.* Other resources currently available include:

American College Health Association
1300 Piccard Drive, Suite 200
Rockville, MD 20850
(301) 963-1100

- Special report: *AIDS on the College Campus*, second edition
- *Teacher Education Resource Manual*
- Regional workshops on HIV/AIDS education
- HIV/AIDS program consultation services
- Educational brochures:
  HIV Infection and AIDS: What Everyone Should Know
  Women and AIDS
  The HIV Antibody Test
  What Are Sexually Transmitted Diseases?
  Safer Sex
  Making Sex Safer

American College Personnel Association
c/o Jeff Baker
University of Texas Medical Branch
Psychologist Training Program - J28
Galveston, TX 77550-2782

- *AIDS Resource Manual - Update 1989*

Association of Governing Boards
of Universities and Colleges
One Dupont Circle, Suite 400
Washington, DC 20036
202-296-8400

- AGB Special Report, *AIDS: What Governing Board Members Need to Know About AIDS*

American College Health Association

Task Force on the Acquired Immunodeficiency Syndrome (AIDS)

General Statement on Institutional Response to AIDS

Revised November 1988

(Reprinted with permission)

Introduction

The American College Health Association (ACHA) presents these recommendations and guidelines for institutions of higher education in response to the epidemic of infection with Human Immunodeficiency Virus (HIV), which causes the Acquired Immune Deficiency Syndrome (AIDS). This statement updates the editions of the *General Statement on Institutional Response to AIDS* issued December 2, 1985 and January 1, 1988. The recommendations and guidelines herein are based on the best currently available medical information and on statements by the United States Public Health Service and the Centers for Disease Control. ACHA has released detailed information and guidelines on certain specific areas of concern to colleges and universities in a special report, *AIDS on the College Campus*. Periodic future statements will update the special report and address other issues as they arise.

Communities in higher education must respond effectively to the epidemic of HIV infection. In a campus environment many students encounter new independence, self determination, and strong peer pressure to adopt certain behaviors. For some students, an uncertain sense of identity and self esteem can further complicate decision making. Experimentation with sexual behaviors and/or drug use may put college and university students at a greater risk of infection. Young adults often feel invincible and tend to deny personal risk. Many people in campus communities believe that HIV infection and AIDS are problems faced elsewhere, or are concerns only for "other kinds" of people. The prolonged latency between infection with HIV and the eventual development of full-blown AIDS will promote the relative invisibility of the infection, an effect which will seem to validate the myth among students (and some faculty and administrators) that "it cannot happen here."

HIV infection is potentially lethal, but absolutely preventable. Each college or university community must do more than be aware of the risks of HIV infection. Each community must accept that HIV infection and AIDS can, in fact, happen on any campus. Every institution of higher education must be accountable to its community to do everything possible to prevent people from being infected, to limit the consequences of established infection, and to provide compassionate care for all concerned individuals. These challenges will demand strong leadership and commitment.

ACHA acknowledges the valuable assistance of the American Council on Education (ACE) in the development of guidelines pertaining to the legal issues and questions presented by the epidemic of HIV infection, and appreciates the support of the National Association of Student Personnel Administrators and the Association of College and University Housing Officers-International.

Educational Programs

The primary response of colleges and universities to the epidemic of HIV infection must be education. The American College Health Association recommends that the organization and implementation of effective educational programs about AIDS and HIV infection be an activity of the highest priority for all institutions of higher learning. In designing the format and content of educational programs, it is important to recognize and address the rich diversity of people in the campus community and to provide opportunities for effective learning by people of any age, ability, gender, ethnicity, or sexual orientation.

Because there is as yet neither a vaccine to prevent HIV infection nor curative therapy for persons infected with HIV, the most pressing need for institutions will be to implement programs which increase awareness and provide education to prevent further spread of the virus. Although knowledge about limiting the consequences of established HIV infection is only beginning to develop, it is important that AIDS education programs also provide what information is available. The following are specific recommendations concerning educational programs.

1. Comprehensive educational programs must address not only undergraduates, but also graduate and professional students; they should reach not only residential students, but also commuters and non-traditional students. Programs to educate students about HIV infection and AIDS should also be available in junior and community colleges and in all schools offering post-secondary education, including continuing education programs.

2. Colleges and universities should offer similar educational opportunities for institutional employees, faculty, and staff. Providing education to faculty and other employees will require leadership from campus health and personnel officers and commitment from senior administrators.

3. The epidemic of HIV infection raises issues of liability that are of great concern to college and university administrators; currently the most effective means of addressing these issues is to educate students and employees about HIV infection and AIDS and to take such reasonable precautions as are suggested herein. Educational programs will also be of paramount importance in discharging the institution's responsibility to protect its student body and staff from the transmission of HIV. As medical evidence consistently indicates that no actual safety risks are created in the usual workplace or academic setting, institutions can best render enrollment or employment safe and healthful through effective education and training programs.

4. **The program of education provided by the institution should emphasize the following:**

   a. Even though they may not have symptoms, persons with HIV infection may transmit the virus to others through intimate sexual contact or exposure to blood; a woman with HIV infection may transmit the virus to her child before or during birth or by breast feeding.

   b. Among people who choose to be sexually active, the consistent and conscientious use of condoms and spermicides containing nonoxynol-9 greatly reduces the chance of transmission of HIV through sexual intercourse.

   c. The sharing of needles used in the injection of illicit drugs is an efficient way to transmit HIV. It is possible that sharing needles used to inject steroids or for other reasons may transmit HIV as well.

   d. Persons with documented HIV infection, and those with behavioral risk factors for HIV infection, should not donate blood, plasma, sperm, or other body organs or tissues.

   e. People with HIV infection pose no risk of transmitting the virus to others through ordinary, casual interpersonal contact.

   f. It is possible that certain interventions and therapies may help limit the consequences of HIV infection among people already infected. People who know they have been infected may thus benefit from regular medical follow-up and immunologic evaluation.

   g. Discrimination against people who have, or are perceived to have, HIV infection is unwarranted, hurtful, and wrong.

5. In colleges and universities with resident students, residence hall staff (both students and employees) should receive education about HIV infection and AIDS prior to the arrival of new students each session.

6. Students should play a major role in designing, implementing, and evaluating educational programs. Peer education models will be especially effective.

7. As a component of its educational program, an institution should inform students and employees about condoms and spermicides and their proper utilization. Condoms and spermicides should be readily available to all students. Colleges and universities may best accomplish this by vending condoms and spermicides in machines, which allows individuals to obtain these materials anonymously and outside regular business hours. Less effective alternatives to condom vending include distributing or selling condoms and spermicides in the health service or at campus stores and referring students to private retailers.

8. **In order for educational programs to be effective, they must provide current information, use reliable, up-to-date materials, and be both easily accessible and widely available.** The Task Force on AIDS of the American College Health Association produces and periodically updates educational brochures and

videotapes dealing with various aspects of HIV infection and AIDS which are available to all institutions. Detailed recommendations for educational programs, including suggested formats and methodologies, are included in the special report, *AIDS on the College Campus*. ACHA will continue to release new educational material, reports, and programming suggestions.

Recommended Policies

A. APPLICATION

These guidelines, which derive from the best currently available medical facts about HIV infection and AIDS, apply to all students or employees with HIV infection. People with HIV infection may be healthy, but have evidence of the infection because of the presence of an antibody to the virus in their blood; others have a condition meeting the criteria of the surveillance definition of AIDS itself, or one of the lesser symptomatic manifestations of infection (such as AIDS-Related Complex or Progressive Generalized Lymphadenopathy).

B. TRANSMISSION INFORMATION RELATIVE TO POLICIES

Current knowledge indicates that students or employees with any form of HIV infection do not pose a health risk to other students or employees in an academic setting. HIV is transmitted perinatally, by intimate sexual contact, and by exposure to contaminated blood. Although HIV may be found in many body fluids and secretions of people who are infected, its presence is clearly correlated with transmission only in blood, semen, and female genital secretions; breast milk may transmit the virus to a nursing infant. There has been no confirmed case of transmission of HIV by any household, school, or other casual contact. The Public Health Service states that there is ***no risk*** created by living in the same place as an infected person, eating food handled by an infected person, being coughed or sneezed upon by an infected person, casual kissing, or swimming in a pool with an infected person. See the following statements:

Centers for Disease Control. Education and foster care of children infected with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus. *Morbidity and Mortality Weekly Reports* 1985;34:517-521.

Centers for Disease Control. Recommendations for prevention of transmission of infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the workplace. *Morbidity and Mortality Weekly Reports* 1985;34:681-6, 691-6.

Health care workers with clinical responsibilities and certain laboratory technicians have a very small but real risk of HIV infection through direct contact with contaminated blood or laboratory preparations. Most such exposures can be prevented by consistent adherence to established infection control guidelines.

These facts are the basis for the following guidelines.

C. GUIDELINES FOR INSTITUTIONAL POLICY

1. ***General Policies.*** The American College Health Association recommends that institutions adopt only general policies, such as are included herein, concerning students or employees with HIV infection. ACHA suggests that institutions respond to each case as required by its particular facts. Given the uncertain legal obligations and challenges involved, institutions are advised neither to devise nor to implement inflexible policies.

2. ***Institutional Committee.*** It is appropriate for college and university officials to designate a group of administrators and faculty to manage the process of evaluating individual cases, to organize and oversee the educational program, and to provide a mechanism for making such policy decisions as become necessary.

3. ***Handicapping Conditions.*** It is clear that persons with AIDS itself (and, possibly, those with other manifestations of HIV infection) will be considered as having handicapping conditions; in making decisions, college and university officers are advised to guarantee the legal rights of these individuals. Existing support services for people with handicapping conditions can be appropriately and effectively utilized by students or employees disabled by HIV infection.

4. ***Admissions.*** No institution of higher education should include consideration of the existence of any form of HIV infection in the initial admissions decision for people applying to attend the institution. The exclusion of people with HIV infection for reason of that infection constitutes unwarranted discrimination.

5. ***Attendance.*** College and university students who have HIV infection, whether they are symptomatic or not, should be allowed regular classroom attendance in an unrestricted manner as long as they are physically and mentally able to attend classes.

6. Access to facilities. There is no justification, medical or otherwise, for restricting the access of persons with HIV infection to student unions, theatres, restaurants, snack bars, gymnasiums, swimming pools, saunas, recreational facilities, or other common areas.

7. Residential housing. Decisions about housing for students with HIV infection must be made on a case-by-case basis. The best currently available medical information does not indicate any risk to those sharing residence with infected individuals. In some circumstances, however, there may be reasonable concern for the health of students with immune deficiencies (of any origin) when those students might be exposed to certain contagious diseases (e.g., measles or chicken pox) in a close living situation. Health officers and administrators in institutions with the flexibility to provide private rooms may wish to recommend that students with immune deficiencies be assigned private rooms in order to protect the health of the immunodeficient student — not to protect other students from them. The American College Health Association recognizes that the fear of HIV infection and AIDS may cause considerable pressure to be brought to bear on housing officers, and has provided a thorough discussion of options in residential housing in the special report, *AIDS on the College Campus.*

8. Medical care. The following recommendations pertain to the provision of clinical services to people with HIV infection.

a. Medical history. Institutions of higher education should not routinely ask students to respond to questions about the existence of HIV infection. It is, however, appropriate in many institutions to encourage students with HIV infection to inform campus health care providers to enable the institution to provide them proper medical care, support, counsel, and education. This, like any other medical information, should be handled in a strictly confidential manner in accordance with the procedures and requirements in effect at the institution.

b. Medical and psychological follow-up. Clinicians in health services and counseling centers should make provisions for medical, psychological, and support services which promote the best physical and mental health of persons with HIV infection. Institutions should organize these resources *prior* to their need to avoid causing anxiety and distress in individuals requiring assistance. If these services are beyond the scope of comparable services provided on campus, the institution should immediately identify other care providers who will see students by referral.

The evolution of antiviral or immunomodulating therapies for HIV infection requires that campus health care providers be aware of current developments and practices in immunologic evaluation and treatment. If these services are beyond the scope of patient care services offered on campus, health officers should be able to refer students or employees to other facilities.

c. Contagious diseases. Special precautions to protect the health of immunologically compromised individuals should be applied during periods of prevalence of certain casually contagious diseases, such as measles and chicken pox.

d. Immunizations. Persons known to have HIV infection should receive measles and rubella vaccination and need not be exempted from institutional requirements for those vaccinations. However, clinicians in health services should be aware of current recommendations for other immunizations in persons with HIV infection because of potentially serious consequences of their receiving live virus vaccines. Some vaccines required for foreign travel may be deleterious to the health of persons infected with HIV.

9. HIV antibody testing.

a. Mandatory testing. College and university officials should not undertake programs of mandatory testing of either employees or students for antibody to HIV. Mandatory testing programs will be cost-ineffective, counterproductive, and discriminatory.

b. Voluntary. College and university health services should be familiar with sources of testing for antibody to HIV, and should be able to refer students or employees requesting tests. Health care providers should understand the capabilities and limitations of the test, and should be able to counsel and educate persons who seek testing. Administrators and clinicians must be familiar with state and local laws and public health requirements regarding charting of results, release of confidential information, and reporting of test results.

Whether the tests are performed through the campus health service or not, they should be done if and ONLY if:
[1] they can be anonymous, or if anonymous testing is not possible, strictly confidential
[2] positive results on the screening test (ELISA test) are confirmed by another procedure, and
[3] both pre-test and post test counseling are a mandated part of the program.

10. Confidentiality of information. People known or suspected to have HIV infection, whether or not they have symptoms of illness, have sometimes been victims of discrimination and physical or psychological abuse. The potential for discrimination and mistreatment of these individuals, and of persons thought to be at risk of infection, requires that confidential information concerning any aspect of HIV infection be handled with extraordinary care.

a. Standards. Guidelines concerning the handling of confidential material about people with HIV infection follow the general standards included in the American College Health Association's *Recommended Standards and Practices for a College Health Program*, fourth edition:

> In general, it is recommended that no specific or detailed information concerning complaints or diagnosis be provided to faculty, administrators, or even parents, without the expressed written consent of the patient in each case. This position with respect to health record is supported by the Family Education Rights and Privacy Act of 1974.

b. Release of information. No person, group, agency, insurer, employer, or institution should be provided any medical information of any kind without the prior written consent of the patient. **Given the possibility of unintended or accidental compromise of the confidentiality of information, health officers should carefully weigh the importance of including any specific information about the existence of known HIV infection in the ordinary medical record except when circumstances of medical necessity mandate it. At minimum, the inclusion of any information regarding HIV infection in the medical record should be discussed with the patient prior to its entry.**

c. Legal liability. Health officials and other institutional officers must remember that all confidential medical information is protected by statutes and that any unauthorized disclosure of it may create legal liability. The duty of physicians and other health care providers to protect the confidentiality of information is superseded by the necessity to protect others only in very specific, life-threatening circumstances.

d. "Need to know." The number of people in the institution who are aware of the existence and/or identity of students or employees who have an HIV infection should be kept to an absolute minimum, both to protect the confidentiality and privacy of the infected persons and to avoid the generation of unnecessary fear and anxiety among other students and staff. The ACHA has released a more detailed statement discussing the handling of confidential information as part of the special report, *AIDS on the College Campus*.

e. Informing other students or employees. There is absolutely no medical nor other reason for institutions to advise students living in a residence hall of the presence there of students with HIV infection. Similarly, college and university officials should not reveal the identity of students or employees with HIV infection in any other setting. The responsibility to provide a safe living environment is best dealt with by educational programming, as discussed earlier. Sharing confidential information without consent may create liability and lead to harassment or discrimination.

f. Public health reporting requirements. College and university health services must strictly observe public health reporting requirements. In all jurisdictions, cases of AIDS meeting the criteria of the surveillance definition of the Centers for Disease Control must be reported to the local public health authorities. In a few areas, seropositivity for antibody to HIV is also reportable but must be kept confidential. The detailed revised surveillance definition for AIDS for case reporting purposes is included in:

> Centers for Disease Control. Revision of the CDC surveillance case definition for acquired immunodeficiency syndrome. *Morbidity and Mortality Weekly Reports* 1987;36:1S.

g. Secondary lists of records. Neither health officers nor other administrators should keep lists or logs identifying individuals tested for antibody to HIV or known to be infected with HIV. The potential for compromise of confidential information far exceeds any conceivable benefit of such listings.

11. Safety precautions. All colleges and universities should adopt safety guidelines as proposed by the United States Public Health Service for the handling of the blood and body fluids of all persons, not just those previously known to have HIV infection. These "universal precautions" are necessary because many people with HIV infection are not identified in advance. The same procedures should thus be followed for the handling of blood and body fluids of *any* student or employee.

a. Disinfection. Surfaces contaminated by blood or other body fluids can be successfully cleaned and disinfected with commercial disinfectant solutions or with household bleach, freshly diluted in a 1:10 solution.

b. Health care providers.

1. Public Health Service procedures. In order to prevent the accidental transmission of HIV in health care settings, institutions which operate health services, laboratories, or clinics for students or staff should implement current recommendations from the Public Health Service for infection control and should monitor compliance with these procedures. Colleges and universities should provide educational programs about HIV infection and its transmission in health care settings to all clinical personnel. The following articles provide current recommendations.

Centers for Disease Control. Recommendations for prevention of HIV transmission in health care settings. *Morbidity and Mortality Weekly Reports* 1987;36:2S.

Centers for Disease Control. Update: Universal precautions for prevention of transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and other bloodborne pathogens in healthcare settings. *Morbidity and Mortality Weekly Reports* 1988;37:377-382, 387-388.

Medical and nursing professionals, dentists and oral surgeons, dental hygienists, optometrists, other clinical service providers, and research laboratory technicians handling blood or body fluids should be familiar with recommended infection control procedures and should follow them consistently.

2. Equipment. College and university health services should use disposable, one-user needles and other equipment whenever such equipment will puncture the skin or mucous membranes of patients. The same safety precautions must be used with all patients. If disposable equipment is not available, any needles or other implements that puncture skin or mucous membranes should be steam sterilized by autoclave before re-use or safely discarded. Extreme caution should be exercised when handling sharp objects, particularly in disposing of needles.

c. Teaching laboratories. Colleges and universities should also adopt safety guidelines for the handling of blood and body fluids of all persons in teaching laboratories. Laboratory courses requiring exposure to blood, such as biology courses in which blood is obtained by finger prick for typing or examination, should use disposable equipment, and no lancets or other blood-letting devices should be re-used or shared. No students, except those in health care professions schools, should be required to obtain or process the blood of others.

12. Support services. The psychosocial consequences of actual or feared HIV infection are such that college and university students and employees may experience enough suffering to impair their health, interfere with academic or work performance, cause extreme psychological distress, disrupt plans, and cripple relationships. Psychological, emotional, and spiritual health may also be important allies for people with established HIV infection. The American College Health Association, therefore, recommends that all institutions develop easily accessible and widely available support services through which concerned persons can receive counseling, assistance in locating and using social resources, and referrals for further assistance. Often, these needs may be met through existing student services or employee assistance programs or by identifying community-based resources for referrals.

13. Harrassment. As a result of the fear, anxiety, and anger that many people feel in reaction to AIDS, some students or employees who are either known to be or suspected of being infected with HIV may be subjected to either emotional or physical abuse, or both. Institutions of higher education should condemn all such occurrences as intolerable and respond to them quickly and effectively.

Forthcoming statements and reports from ACHA will address other educational and administrative issues as they arise.

Task Force on AIDS
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Richard P. Keeling, M.D., Chairman

Policy Guidelines for Addressing HIV Infection in the Academic Medical Community

A Report of the AAMC Committee on AIDS and
the Academic Medical Center

October 1988

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Table of Contents

PREFACE v

COMMITTEE ON AIDS AND THE ACADEMIC MEDICAL CENTER vi

THE COMMISSIONING OF THIS REPORT 1

THE NEED FOR POLICIES 2

THE OBJECTIVES OF POLICIES 3
- Safe Patient Care and the HIV-Infected Health Care Worker 4
- Protection from Discrimination 5
- Proper Handling of Information 5

AREAS OF SPECIAL CONCERN 6
- Information and Testing for Medical Students, Residents, and Faculty/Staff 6
  - Availability of Information
  - Access to Testing
  - Mandatory HIV Screening
- Medical Students, Residents and Faculty/Staff Known to be HIV-Infected 8
  - Reporting
  - Medical Care and Counseling
  - Managing Occupational Risks
  - Educational and Career Counseling
- HIV Status and Admission to Medical Training 9
  - HIV Infection and Career Decision Making
  - HIV Testing of At-Risk Applicants
  - Admissions Decisions and HIV-Infected Applicants
  - Pre-Admission Inquiries

Appendix A: AAMC Statement on Professional Responsibility in Treating AIDS Patients, approved and endorsed by the AAMC Executive Council, February 25, 1988. 13

Appendix B: Scientific and Medical Summary of HIV Infection, prepared by Gary Simon, M.D., Ph.D. 17

Preface

In September 1987, the Association of American Medical Colleges (AAMC) appointed a Committee on AIDS and the Academic Medical Center, chaired by Jay Sanford, M.D., president and dean, Uniformed Services University of the Health Sciences. The Committee was charged to identify and discuss issues raised by the human immunodeficiency virus (HIV) epidemic that have specific relevance for academic medicine and to recommend policy positions and program initiatives for the AAMC and its member institutions.

Under the able leadership of Dr. Sanford, the Committee has developed this first full report which provides guidelines for institutions in addressing cases of HIV infection among medical students, residents, or faculty/staff. The report was drafted by the subcommittee on institutional policies, chaired by Festus Adebonojo, M.D., chairman, department of pediatrics, Meharry Medical College. On September 8, 1988, the Executive Council of the AAMC accepted the Committee report and approved distribution of it to AAMC members and other interested publics.

We are appreciative of the Committee's work and commend this report to you as a thoughtful reflection on the issues raised by the possibility of HIV infection within our academic medical community. Those who are charged with developing institutional policies in this area as well as those who administer them will benefit from it. We hope that the report will stimulate academic medical institutions to write policies that are responsive to the gravity of the epidemic and sensitive to the rights of those who are victims of it.

Robert G. Petersdorf, M.D.
President
Association of American
Medical Colleges

THE COMMISSIONING OF THIS REPORT

The acquired immunodeficiency disease syndrome (AIDS) and related diseases caused by human immunodeficiency viruses (HIV) pose unanticipated challenges to medical schools and to hospitals engaged in medical student and graduate education, biomedical research, and patient care. Institutional responsibilities in the face of these challenges merit thoughtful reflection and discussion by member institutions of the Association of American Medical Colleges (AAMC).

Toward this end, the Executive Council of the AAMC formed the Committee on AIDS and the Academic Medical Center. The Committee was charged to deliberate on issues raised by the HIV epidemic that were especially relevant for medical schools and teaching hospitals and to suggest policy positions and program initiatives for the AAMC and its member institutions.

This is the first full report of that Committee. The Committee has drafted a statement on the professional responsibility of medical students, residents, and faculty to provide care to HIV-infected persons. That statement has been endorsed by the AAMC Executive Council and distributed to AAMC members and the general public.[1] A further report is planned to offer guidance on the implications of the epidemic for medical student and resident educational programs.

This paper addresses the development of institutional policies and procedures directed at actual or possible cases of HIV infection among medical students, resident physicians, and faculty/staff. Particular attention is paid to the infected individual as a health care worker and the issues that arise in the context of ensuring safe patient care and protecting individual rights. The report also contains specific recommendations with regard to providing information about and access to testing to all members of the academic community, and administrative actions in response to those known to be HIV-infected. Finally, the report offers a conceptual framework for dealing with the issue of admission to medical training of HIV-infected applicants.

This report does not discuss institutional responsibilities in the special case of HIV infection acquired occupationally in the clinical or laboratory setting. The Committee recognizes the intense concern of medical students, residents, and faculty/staff regarding personal health care and disability compensation consequent to acquiring HIV infection in the course of medical training or employment. The resolution of these issues will require a prospective collaborative effort by teaching institutions, unions, insurers, and health care providers.[2]

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[1] Text of the statement appears in Appendix A.

Although the recommendations contained in this report are discussed specifically in regard to medical education, the Committee believes they may be useful to other health professions whose educational programs involve interactions with patients in hospital or clinic settings.

THE NEED FOR POLICIES

RECOMMENDATION 1. *Institutions should develop specific policies in anticipation of cases of HIV infection among medical students, residents, and faculty/staff.*

RATIONALE. The issue of HIV infection in health care personnel evokes both appropriate concerns and irrational fears. These concerns are a legitimate warrant for policy development. Irrational fears of transmission of HIV have magnified the injury of the epidemic to its victims and to the community by stigmatizing infected individuals, justifying discrimination against them, and depriving the community of their contributions. These irrational fears have complicated efforts to develop effective public policies to address this epidemic.

Given these concerns and fears, a carefully considered, institutional policy offers several advantages over ad hoc administrative responses. The prospective consideration of institutional procedures and policies to address HIV infected persons can facilitate the resolution of appropriate concerns and help to minimize the adverse consequences of irrational fears. By establishing clear lines of authority and responsibility and procedures for communication within the institution, policies can help to preserve the safety of patients and staff while protecting the personal rights of infected individuals.

The Committee's recommendations are addressed to academic medical center institutions, medical schools and teaching hospitals. These are diverse and complex organizations. The appropriate locus of policy development may vary from institution to institution. All relevant clinical and administrative authorities and constituencies within institutions should be invited to contribute to the developing policy and be fully informed of its requirements. Coordinated and uniform policies throughout multi-institutional teaching programs are advisable.

RECOMMENDATION 2. *Institutions should periodically review and, when appropriate, update policies in light of evolving medical and scientific understanding of HIV.*

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[2] The Committee has asked the AAMC Executive Council to establish a process to confer with academic medical institutions, groups representing affected students and employees, and the insurance industry to address these issues.

RATIONALE. Current medical and scientific understanding of HIV infection is the basis for responsible policy development. Evolving insights into the pathophysiology of HIV infection, the development of improved diagnostic, prognostic, staging tools, and treatment modalities, as well as new epidemiological perspectives on the disease and evolving social policy and legal thought—all require that policy responses be updated regularly. At the same time, the promise of new information does not lessen the responsibility of medical educators to address these issues using available information. Current policies must be designed in light of present knowledge and needs.[3]

THE OBJECTIVES OF POLICIES

RECOMMENDATION 3. *Institutional policies should be grounded in an explicit understanding of the* multiple *objectives they are intended to promote.*

RATIONALE. There are a number of potential objectives for policies addressing HIV infected health care workers. To some degree, these objectives are in tension with each other and merit policies that strike a balance between competing goals. Policies designed by academic medical institutions should be mindful of the diverse interests and objectives that will be served or that may be affected by policies. The single-minded pursuit of one objective may result in policies or procedures that compromise or injure other important interests. Medical educators, by virtue of their scientific expertise, will be important leaders in the rational resolution of these issues.

The Committee suggests that the objectives of policies addressing HIV infection include the following:

- to provide expert and safe patient care;
- to protect the personal rights of HIV-infected individuals, including the right to freedom from unwarranted disparate treatment and improper handling of private information;
- to provide information, education, and counseling that promotes the personal and professional well-being of students, residents, and faculty/staff;
- to provide a safe work environment for all students, residents, and faculty/staff; and
- to provide for the implementation of laws and regulations pertaining to public health and welfare.

Several of these objectives merit special discussion. The concern for safe patient care and the issues pertaining to protection of personal rights will be discussed in this section. The relevant policy implications of the other objectives will be elaborated in later sections addressing particular policy concerns.

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[3] A brief summary of the scientific and medical understanding of HIV infection available to the Committee at the time of its deliberations appears in Appendix B.

RECOMMENDATION 4. *Any modification of the clinical training or privileges of HIV-infected medical students, residents, or faculty/staff should be determined case-by-case, taking into account the nature of the clinical activity, the technical expertise of the infected person, and the risks posed by HIV carriage, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents.*

RATIONALE. Although no case of transmission of HIV from health care worker to patient has been documented, concern for patient welfare is a proper foundation for the construction of policy. In contrast to other viral agents, for example hepatitis B, HIV has been shown to be relatively difficult to transmit, requiring minimally the transfer of body fluids, blood, or blood products. Health care worker to patient transmission of HIV is a theoretical risk in a limited scope of clinical activities, primarily invasive procedures, where it is conceivable that an infected health care worker could expose the patient to infected body fluids. Additionally, HIV-infected persons with advanced immunosuppression may be infectious with mycobacteria, herpes viruses, enteric pathogens, or other agents that pose a potential nosocomial hazard to patients. Finally, some HIV-infected health care workers may have neurologic conditions that impair their judgment.

Institutions may legitimately monitor or modify the clinical activities of students, residents, and faculty/staff who are believed to pose an unwarranted risk to patients. The Committee supports following the most current guidelines issued by the Centers for Disease Control addressing this issue with regard to HIV infection as well as those addressing nosocomial transmission of other agents.[4] Given that HIV is not believed to be transmissible in many types of clinical encounters and that the attendant presence of other infectious agents or functional disabilities will vary from person to person, the decision to restrict or monitor clinical activities cannot be based simply on an HIV-infected status. Rather, actions should be based on an individualized evaluation of each person's activities, his or her technical expertise, the risk posed by HIV carriage, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents. Institutions should affirm and support the participation of HIV-infected persons in clinical activities that do not pose a risk to patients.

Policies or administrative actions to restrict or monitor the clinical training or privileges of HIV-infected persons should be consistent with those directed at other infectious hazards and functional impairments. The development of policies addressing HIV infection affords an opportune occasion for institutions to review and update previously established policies addressing related issues.

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[4] At the time of the Committee's deliberations, these were the following: MMWR 1988; 37:377-382, MMWR 1987; 36:3S-18S.

Protection from Discrimination

RECOMMENDATION 5. *Institutions should take positive actions to prevent discrimination against HIV-infected persons in employment, education, or use of public facilities.*

RATIONALE. Ethical imperatives establish and legal statutes protect the rights of handicapped individuals. Section 504 of the 1973 Vocational Rehabilitation Act, as amended, specifies that "no otherwise qualified handicapped individual . . . shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program of activity receiving Federal financial assistance." The AAMC has supported the intent of this legislation to make more widely available vocational opportunities for handicapped individuals as it has also affirmed the responsibility of medical schools to examine the implications of each handicapping condition in terms of the observational, communicative, and motor skills, conceptual, integrative, and quantitative abilities, and behavioral and social attributes required for successful completion of the medical education program and competence in medical practice.

HIV-infected students, residents, and faculty/staff are vulnerable to unwarranted disparate treatment in housing, employment, and access to educational resources. Institutions should be mindful of this potential in the design of policies for HIV-infected persons. This problem might be addressed in several ways. Policies can affirmatively state the rights of infected persons. They can provide explicit, rational, proportionate, and equitable criteria for addressing the special concerns raised by their infected status. Infected individuals should be advised of and have access to intra-institutional channels to appeal and obtain redress of allegedly discriminatory policies, procedures, or administrative actions.

Proper Handling of Information

RECOMMENDATION 6. *Institutions should establish policies and procedures to ensure the proper handling of information related to a person's HIV status.*

RATIONALE. The need to handle personal and medical information in a manner sensitive to the rights of individuals is especially significant to HIV-infected persons. The way in which such information is treated is intimately related to the right not to be subjected to discrimination.

The nature of academic medical institutions poses especially complex problems for the maintenance of appropriate levels of confidentiality for their own students, residents, and faculty/staff. The issues posed by the unusual access of colleagues or coworkers to medical information should be explicitly addressed by institutions that test, counsel, treat, monitor, or intervene in the cases of HIV-infected students, residents, or faculty/staff. Clearly defined, confidential means of communication and information storage should be established. The "need to know" basis for reporting information outside of the therapeutic relationships between infected persons and persons treating them should be explicitly and individually justified. Information should be shared only to the degree necessary for the effective implementation of policies. The designation of one official to coordinate policy implementation may help to maintain confidentiality of such information.

AREAS OF SPECIAL CONCERN

The Committee recognizes several areas of special attention. The first is policies and procedures to provide information about HIV and access to HIV testing. The second concerns administrative actions in response to known cases of HIV infection. The last has to do with the admission of HIV-infected persons to medical school and residency programs.

Information and Testing for Medical Students, Residents, and Faculty/Staff

Availability of Information

RECOMMENDATION 7. *Institutions should inform medical students, residents, and faculty/staff of the relevance of HIV infection to their personal health, medical practice, the public health, and their professional careers and of the institution's policies and procedures that pertain to possible cases of HIV infection among medical students, residents, or faculty/staff.*

RATIONALE. The institution is responsible for providing information to medical students, residents, and faculty/staff so that they can protect their own health, treat and counsel patients, perform legitimate public health responsibilities, make informed career decisions, and, if HIV-infected, avoid transmitting the virus. The institution bears a special responsibility for informing students, residents, and faculty/staff of the scope, requirements, and rationale for its own policies to address HIV infection in health care workers.

Access to Testing

RECOMMENDATION 8. *Institutions should encourage medical students, residents, and faculty/staff who believe they are at risk of HIV infection to seek testing and counseling. Institutions should provide access to both confidential and anonymous HIV-antibody testing programs that are methodologically sound and that properly counsel tested persons about the implications of positive or negative results.*

RATIONALE. Early diagnosis is a fundamental principle of good medical care. It allows patients to benefit from care based on an accurate medical understanding of their condition. Although HIV infection is not curable, recent advances in therapeutic interventions enable physicians to prevent the occurrence of *pneumocystis carinii* pneumonia, the leading cause of death, and to prolong life with specific antiviral therapy. Early diagnosis coupled with counseling is also important in preventing further spread of infection.

In order to attract into testing programs all persons who may be infected, institutions should provide access to various testing options, including both confidential and anonymous testing programs. All programs should employ approved testing methods and procedures for quality control. Information about testing programs should include a clear explanation of policies and procedures for reporting and storing test results.

Testing programs which are separate from the institution may be preferable to achieve policy objectives. Such programs may encourage more persons to take advantage of testing opportunities, because the promise of confidential handling of information may be more credible. Institutions that choose to provide access to HIV testing for medical students, residents, and faculty/staff through their own existing programs are encouraged to consult with legal counsel in order to understand fully and to alleviate to the maximum extent possible the legal risks that may attend such a choice. Advice of counsel should be sought on the question of whether knowledge of a person's HIV status obtained by the institution through such a testing program could be imputed to the institution in a later legal proceeding in which the failure to act consistent with such knowledge (e.g., in an appropriate case, by curtailing or limiting an infected person's role in an invasive procedure) arguably resulted in a patient's or other person's infection.

Mandatory HIV Screening

RECOMMENDATION 9. *Institutions should not initiate mandatory HIV screening of medical students, residents, or faculty/staff unless justified by evidence of a significant risk to patients.*

RATIONALE. A requirement that the institution be aware or informed of the HIV status of all students, residents, or faculty/staff would have to be based on its responsibilities to safeguard patients and to protect the public health. The decision to screen must be anchored in medically and scientifically sound theory and data concerning the risk of transmission and gravity of outcome. To justify mandatory screening, infection control authorities would have to agree first that a significant risk was present and could be reduced by additional monitoring or modification of clinical practices. Less intrusive alternatives to controlling the risk would have to be considered and demonstrated as ineffective or infeasible. The objectives to be achieved by mandatory screening would have to be balanced against the infringement of personal liberties that might be involved. The rationale and intervention to control the nosocomial transmission of HIV should be proportionate to those for other nosocomial risks.

Medical Students, Residents and Faculty/Staff Known to be HIV-Infected

Reporting

RECOMMENDATION 10. *Institutions should encourage HIV-infected medical students, residents, and faculty/staff to discuss their situation with a designated institutional official.*

RATIONALE. Medical students, residents, or faculty/staff who are aware that they are HIV-infected should be encouraged to inform the institution. Such reporting will enable a designated official to assist the individual in obtaining medical care and counseling, to work with the individual in managing occupational risks, to provide education and career counseling, and in the case of individuals performing selected invasive procedures, to manage nosocomial risks (as discussed above). To a considerable degree, encouragement for such reporting will be accomplished by the institution's demonstration of its commitment to confidentiality, protection against discrimination, and proportionate, equitable, individualized, and rational responses to such situations.

Medical Care and Counseling

RECOMMENDATION 11. *HIV-infected medical students, residents, and faculty/staff should have access to expert medical care and counseling and also be counseled on how to prevent further spread of infection.*

RATIONALE. The immediate needs of the infected medical student, resident, or faculty/staff member are the same as those of any HIV-infected person: expert medical care and counseling. Medical care, even for someone not exhibiting symptoms of disease, is necessary to monitor the infected person's condition, to advise on the natural history of the viral infection and course of disease progression, and to consider treatment options. Counseling is required to help individuals cope with the psychological impact of HIV infection and to ensure that they know how to prevent further spread of the virus. Medical care and counseling are best provided by a physician who is knowledgeable about HIV infection and disease, including the immunological consequences of infection, psychosocial aspects, and both proven and investigative therapeutic regimens. Institutions should ensure that infected individuals can avail themselves of such care and should provide access to expert care givers when necessary.

Managing Occupational Risks

RECOMMENDATION 12. *Institutions should identify clinical settings with infectious hazards that might pose an additional risk to the personal health and well-being of HIV-infected persons, inform infected persons of these risks, and encourage them to consult their personal physician to assess the significance of these risks for their personal health and safety.*

RATIONALE. Risk to a health care worker from exposure to infectious hazards in the clinical setting is inherent in the choice of a medical career. This risk is made manageable by access to, and use of, various safeguards and precautionary measures.

Medical training may pose a greater than normal risk to those whose immune system is compromised. These possible risks may suggest the need for extra precautions or may cause immunocompromised individuals to reconsider their career intentions. In this context, the additional potential risks to HIV-infected health care workers should be addressed in institutional policies.

Consideration should be given to whether these risks call for modifications or restrictions in the clinical activities of students, residents, or faculty/staff. The personal health status of the individuals in question, their status in the educational program, and the clinical specialty of residents and faculty at the time they are identified as HIV-positive bear heavily on the nature and degree of modifications or restrictions on clinical activities that may be considered. Institutions should cooperate with the HIV-infected person, his or her personal physician, and other medical experts as appropriate in identifying and implementing special precautions and program modifications to safeguard the personal health and safety of such persons. Institutions must judge whether the curricular modifications required to reduce risk to a level acceptable to the infected medical student or resident are compatible with essential requirements of the medical education program.

Educational and Career Counseling

RECOMMENDATION 13. *Institutions should provide HIV-infected medical students, residents, and faculty/staff with supportive and individualized educational and career counseling.*

RATIONALE. HIV-infected students, residents, and faculty/staff should have access to educational/career counseling. They will need to review their educational or career objectives in light of the realities of HIV infection, scientific progress, and professional responsibilities. Institutions may be able to adapt their clinical education programs in order for the HIV-infected medical student or resident to complete the training requirements. Institutions should make every effort to assist students, residents, or faculty/staff who wish to continue to pursue their current educational or career objectives. Assistance should be given to those contemplating a change in career within medicine as well as those electing to leave medical careers or training.

HIV Status and Admission to Medical Training

HIV Infection and Career Decision Making

RECOMMENDATION 14. *Institutions should inform medical school and residency program applicants of the relevance of acquiring HIV infection to their career goals.*

RATIONALE. Institutions have a responsibility to assist applicants to medical school and residency programs in making informed career choices. Knowledge that one has been infected with HIV is particularly relevant to the decision to apply to medical school or to elect specialty training. HIV-infected applicants may wish to reconsider their career goals. First, they may wish to reconsider the election of a prolonged period of medical education, in light of the significant possibility that they will become disabled during training or early in their career. Second, they may wish to reconsider career choices in light of the infectious hazards of certain portions of medical education and practice. Third, they may wish to reconsider career choices in recognition of possible barriers to certain invasive clinical activities and fields of specialization within medicine that may be imposed because of possible nosocomial hazards to patients. Fourth, given the personal health and career uncertainties that confront them, they may wish to reconsider assuming the financial costs of medical education. Institutions should make special informational material about these issues generally available to all applicants.

HIV Testing of At-Risk Applicants

RECOMMENDATION 15. *Institutions should encourage medical school and residency program applicants who believe they are at risk of HIV infection to seek HIV testing and counseling prior to admission.*

RATIONALE. As discussed above, the benefits of early diagnosis and the importance of preventing virus transmission support the value of HIV testing and counseling for those who may be at risk. Also, such information may be particularly relevant to the applicant's choice of a medical career.

Admissions Decisions and HIV-Infected Applicants

RECOMMENDATION 16. *In considering the admission of a medical school or residency program applicant known to be HIV-infected, institutions should determine whether they are qualified in terms of the technical standards established by the institution in compliance with Section 504 of the 1973 Vocational Rehabilitation Act.*

RATIONALE. Determining whether the condition of being infected with HIV provides a basis for denying admission to medical school or residency training presents a complex problem for admissions committees. Although symptomatic HIV-infected persons currently have a poor prognosis, a number of uncertainties remain concerning the natural history of infection and disease progression and the development of therapeutic options, especially for asymptomatic persons. Admission of an asymptomatic HIV-infected applicant could only be denied if the institution concluded, on the basis of sound medical and scientific evidence, that the applicant's infected status would prevent him or her from completing essential degree requirements and that no reasonable accommodation could be made that would enable the applicant to do so.

It is unlikely that a person with the debilitating symptoms that ensue from HIV infection would seek admission to medical school or residency training. In the event that such an individual were to apply, the applicant's limitations or impairments could be considered, as is the case with other medical and handicapping conditions. Evaluation for admission should focus on whether the individual in his or her current health state, with reasonable accommodations by the institution, possessed the functional abilities necessary for the successful completion of the medical education program. Admission might be denied on the basis of physical limitations that are consequent to progression of infection. The AAMC has issued guidelines for the development of technical standards by institutions to ensure that their admissions processes are in compliance with Section 504.

Pre-Admission Inquiries

RECOMMENDATION 17. *Institutions should not inquire about the HIV status of medical school or residency program applicants, unless they have determined that the condition of being infected is grounds for denial of admission.*

RATIONALE. An institution's need to know the HIV status of its applicants can be based only on the relevance of the information to the admissions process. Therefore, questions of the legitimacy of preadmission inquiries or screening related to HIV status arise only subsequent to a determination by the institution that an infected status as such is grounds for denial of admission, as discussed previously.

Appendix A

AAMC STATEMENT ON PROFESSIONAL RESPONSIBILITY IN TREATING AIDS PATIENTS

The following statement was adopted by the Executive Council of the AAMC February 25, 1988. The statement was drafted by the AAMC Committee on AIDS and the Academic Medical Center.

The acquired immunodeficiency syndrome (AIDS) has had an impact on the medical profession far beyond its pathophysiology. All fields of clinical practice have been dramatically altered by this disease. It has posed a significant challenge to the nation's health care system in providing for both the financing and delivery of care to those afflicted. Moreover, this epidemic, which is unparalleled in the latter half of the twentieth century, has confronted the medical profession with numerous moral and ethical issues. A central concern, to which this statement is directed, is the physician's responsibility to provide care to all patients.

The Association of American Medical Colleges (AAMC) has taken special note of the fears and concerns of medical professionals and those in training regarding the care of patients infected with the human immunodeficiency virus (HIV). Data indicate that a physician's occupational risk of acquiring HIV infection is small. However, because of the lethal nature of the disease, many physicians are concerned about transmission of infection, especially in settings where invasive procedures are performed such as the operating room or cardiac catheterization laboratory.

Personal risk to the physician in the practice of medicine is not a new phenomenon even within this century, as the history of tuberculosis, poliomyelitis, influenza, and syphilis demonstrates. But scientific advances, especially the development of vaccines and antibiotics, have tended to lower consciousness of these continuing risks for an entire generation of younger physicians, medical students and residents. AIDS has brought this consciousness once again to the fore.

The AAMC's special concern is with those medical students and residents, now and in the future, whose preparation for entry into the profession is the responsibility of medical school faculties. Medical education cannot be narrowly conceived as simply the imparting of knowledge and skills. It has as its objective the development of professional men and women who are prepared to adhere to the highest standards of conduct and behavior asked of few members of our society. Entry into the medical profession is a privilege offered to those who are prepared for a lifetime of service to the ill.

The HIV epidemic must serve to remind us of these basic principles and the fundamental responsibilities of those who aspire to the practice of medicine and those charged with preparing them for it:

> ***Medical students, residents, and faculty have a fundamental responsibility to provide care to all patients assigned to them, regardless of diagnosis. A failure to accept this responsibility violates a basic tenet of the medical profession—to place the patient's interest and welfare first.***

Faculty members have a special responsibility to model the professional behavior and attitudes expected of physicians in training in their own willingness to provide competent, sensitive, and compassionate care to all patients.

Each medical school and teaching hospital must accept the responsibility to help medical students, residents, and faculty address and cope with their fears and prejudices in treating HIV-infected patients. This responsibility includes providing the following:

- *an accurate portrayal to medical school applicants of the personal risks involved in medical practice;*
- *up-to-date information on the modes and risk of transmission of the virus;*
- *training in protective measures to be employed in the clinical setting, monitoring compliance with them, and defining procedures to be followed in the event of potential exposure;*
- *appropriate facilities, equipment, and personnel to avoid unnecessary risk;*
- *counseling to those who continue to express reluctance to participate in education and patient care programs with HIV-infected individuals.*

Further, each medical school and teaching hospital should articulate a clear policy emphasizing the physician's responsibility to provide care to patients without regard to the nature of their illness.

AADS Revised Policy Statement III B, as adopted by the AADS House of Delegates, March 13, 1991, New Orleans, Louisiana

Infectious Diseases. Dental education has the obligation to maintain standards of health care and professionalism that are consistent with the public's expectations of the health professions.

1. All dental personnel are ethically obligated to provide patient care with compassion and respect for human dignity.

2. No dental personnel may ethically refuse to treat a patient solely because the patient is at risk of contracting, or has, an infectious disease, such as human immunodeficiency virus (HIV) infection, acquired immunodeficiency syndrome (AIDS), or hepatitis B infection. These patients must not be subjected to discrimination.

3. Dental personnel are ethically obligated to respect the rights of privacy and confidentiality of patients with infectious diseases.

4. The institution is ethically obligated to protect the privacy and confidentiality of any faculty member, student, or staff member who has tested positive for an infectious disease. Dental personnel who pose a risk of transmitting an infectious agent must consult with appropriate health care professionals to determine whether continuing to provide professional services represents a material risk to the patient. If a dental faculty, student, or staff member learns that continuing to provide professional services represents a material risk to patients, that person should so inform the chief administrative officer of the institution. If so informed, the chief administrative officer of the dental education institution should take steps consistent with the advice of appropriate health care professionals and with current federal, state, and/or local guidelines to ensure that such individuals not engage in any professional activity that would create a risk of transmission of the infection to others. In addition, the chief administrative officer of the institution must facilitate appropriate counseling and follow-up care, and should consider establishing retraining and/or counseling programs for those faculty, staff, and students who do not continue to perform patient care procedures.

5. Chief administrative officers of dental education institutions must establish and enforce written preclinical, clinical, and laboratory protocols to ensure adequate asepsis, infection and hazard control, and hazardous-waste disposal. These protocols should be consistent with current federal, state, and/or lcoal guidelines and must be provided to all faculty, students, and appropriate support staff. To protect faculty, students, staff, and patients from possibility of cross-contamination and infection, asepsis protocols must include policy requiring the availability and use of gloves, masks, and protective eye wear by faculty, staff, and students in both preclinical and clinical situations.

6. Chief administrative officers must facilitate the availability of testing of faculty, staff, and students for those infectious diseases presenting a documented risk to dental personnel and patients. Further, the administrative officers must facilitate the availability of the hepatitis B vaccine and appropriate vaccine follow-up, and should stronly encourage appropriate faculty, staff, and students to be immunized against not only hepatitis B, but other infectious diseases such as mumps, measles, and rubella, using standard medical practices.

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Council Report

Ethical Issues Involved in the Growing AIDS Crisis

Council on Ethical and Judicial Affairs

THE COUNCIL on Ethical and Judicial Affairs of the American Medical Association (AMA) recognizes the growing crisis created by the acquired immunodeficiency syndrome (AIDS) as a crucial health problem involving the physician's ethical responsibility to his patients and to society. The House of Delegates adopted Report YY (1987 Annual Meeting) of the Board of Trustees, which provides excellent guidance for a responsible public policy. As stated therein, AIDS patients are entitled to competent medical service with compassion and respect for human dignity and to the safeguard of their confidences within the constraints of the law. Those persons who are afflicted with the disease or who are seropositive have the right to be free from discrimination.

A physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive. The tradition of the AMA, since its organization in 1847, is that "when an epidemic prevails, a physician must continue his labors without regard to the risk to his own health." (See Principles of Medical Ethics, 1847, 1903, 1912, 1947, 1955.) That tradition must be maintained. A person who is afflicted with AIDS needs competent, compassionate treatment. Neither those who have the disease nor those who have been infected with the virus should be subjected to discrimination based on fear or prejudice, least of all by members of the health care community. Physicians should respond to the best of their abilities in cases of emergency where first-aid treatment is essential, and physicians should not abandon patients whose care they have undertaken. (See Section 8.10 of *Current Opinions of the Council on Ethical and Judicial Affairs of the American Medical Association, 1986*.)

Principle VI of the 1980 Principles of Medical Ethics states: "A physician shall in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate and the environment in which to provide medical services." The Council has always interpreted this principle as not supporting illegal or invidious discrimination. (See Section 9.11 of *Current Opinions, 1986*.) Thus, it is the view of the Council that Principle VI does not permit categorical discrimination against a patient based solely on his or her seropositivity. A physician who is not able to provide the services required by persons with AIDS should make an appropriate referral to those physicians or facilities that are equipped to provide such services.

At its 1987 Annual Meeting, the House of Delegates adopted Substitute Resolution 18, which asked the Council on Ethical and Judicial Affairs to address "the patient confidentiality and ethical issues raised by known HIV antibody positive patients who refuse to inform their sexual partners or modify their behavior." Physicians have a responsibility to prevent the spread of contagious diseases, as well as an ethical obligation to recognize the rights to privacy and to confidentiality of the AIDS victim. These rights are absolute until they infringe in a material way on the safety of another person or persons. Those who are not infected with the virus are entitled to protection from transmission of the disease. Thus, the societal need for accurate information and public health surveillance must also be respected. As the Board of Trustees stated in Report YY, "A sound epidemiologic understanding of the potential impact of AIDS on society requires the reporting [on an anonymous or confidential basis to public health authorities] of those who are confirmed as testing positive for the antibody to the AIDS virus."

In those jurisdictions in which the reporting of individuals infected with the AIDS virus to public health authorities is not mandated, a physician who knows that a seropositive patient is endangering a third party faces a dilemma. The physician should attempt to persuade the infected individual to refrain from activities that might result in further transmission of the disease. When rational persuasion fails, authorities should be notified so that they can take appropriate measures to protect

Members of the Council on Ethical and Judicial Affairs include the following: John H. Burkhart, MD, Chairman; Russel H. Patterson, Jr, MD, Vice Chairman; Nancy W Dickey, MD; Leo M. Henikoff, Jr, MD; Douglas D. Lind, MD, Resident; Richard J. McMurray, MD; Michael A. Puzak, MD; Michael T. Valley, Student; and Mary M. Devlin, JD, Secretary.

From the Council on Ethical and Judicial Affairs, American Medical Association, Chicago.

The American Medical Association House of Delegates filed this report at its 1987 Interim Meeting.

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third parties. Ordinarily, this action will fulfill the physician's duty to warn third parties; in unusual circumstances, when all else fails, a physician may have a common-law duty to warn endangered third parties. However, notification of any third party, including public health authorities, without the consent of the patient may be precluded by statutes in certain states. Therefore, the Council reiterates and strongly endorses Recommendations 16 and 17 of Board Report YY. They are that:

Recommendation 16.—Specific statutes must be drafted which, while protecting to the greatest extent possible the confidentiality of patient information, (a) provide a method for warning unsuspecting sexual partners, (b) protect physicians from liability for failure to warn the unsuspecting third party but, (c) establish clear standards for when a physician should inform the public health authorities, and (d) provide clear guidelines for public health authorities who need to trace the unsuspecting sexual partners of the infected person.

Recommendation 17.—Given the risk of infection being transmitted sexually, and given the dire potential consequences of transmission, serious consideration should be given to sanctions, at least in circumstances where an unsuspecting sexual partner subsequently finds out about a partner's infection and brings a complaint to the attention of authorities. Pre-emptive sanctions are not being endorsed by this recommendation.

The civil rights and liberties of those who are infected with the AIDS virus, as well as those who are not, are entitled to protection. The ethical challenge to the medical profession is to maintain a judicious balance in this regard, including the issue of whether physicians who are infected with the human immunodeficiency virus must inform their patients or whether they may continue in patient care at all. The Council's new opinion on "Physicians and Infectious Diseases" is as follows: "A physician who knows that he or she has an infectious disease should not engage in any activity that creates a risk of transmission of the disease to others." In the context of the AIDS crisis, the application of the Council's opinion depends on the activity in which the physician wishes to engage.

The Council on Ethical and Judicial Affairs reiterates and reaffirms the AMA's strong belief that AIDS victims and those who are seropositive should not be treated unfairly or suffer from discrimination. However, in the special context of the provision of medical care, the Council believes that if a risk of transmission of an infectious disease from a physician to a patient exists, disclosure of that risk to patients is not enough; patients are entitled to expect that their physicians will not increase their exposure to the risk of contracting an infectious disease, even minimally. If no risk exists, disclosure of the physician's medical condition to his or her patients will serve no rational purpose; if a risk does exist, the physician should not engage in the activity. The Council recommends that the afflicted physician disclose his or her condition to colleagues who can assist in the individual assessment of whether the physician's medical condition or the proposed activity poses any risk to patients. There may be an occasion when a patient who is fully informed of the physician's condition and the risks that condition presents may choose to continue his or her care with the seropositive physician. Great care must be exercised to ensure that true informed consent is obtained.

In summary, the Council on Ethical and Judicial Affairs believes that:

- A physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive. Persons who are seropositive should not be subjected to discrimination based on fear or prejudice.
- Physicians are dedicated to providing competent medical service with compassion and respect for human dignity.
- Physicians who are unable to provide the services required by AIDS patients should make referrals to those physicians or facilities equipped to provide such services.
- Physicians are ethically obligated to respect the rights of privacy and of confidentiality of AIDS patients and seropositive individuals.
- Where there is no statute that mandates or prohibits the reporting of seropositive individuals to public health authorities and a physician knows that a seropositive individual is endangering a third party, the physician should (1) attempt to persuade the infected patient to cease endangering the third party; (2) if persuasion fails, notify authorities; and (3) if the authorities take no action, notify the endangered third party.
- A physician who knows that he or she is seropositive should not engage in any activity that creates a risk of transmission of the disease to others.
- A physician who has AIDS or who is seropositive should consult colleagues as to which activities the physician can pursue without creating a risk to patients.

224

AMA STATEMENT

January 17, 1991

FOR IMMEDIATE RELEASE

AMA STATEMENT ON HIV INFECTED PHYSICIANS

Physicians who are HIV positive have an ethical obligation not to engage in any professional activity which has an identifiable risk of transmission of the infection to the patient. Many patients have been treated by HIV infected physicians and there have been no documented cases of transmission from physician to patient.

However, the recent cases of possible dentist-to-patient transmission have caused some uncertainty about the risk of transmission from physicians to patients under certain circumstances. In cases of uncertainty about the risks to patient health, the medical profession, as a matter of medical ethics, should err on the side of protecting patients.

The health of patients must always be the paramount concern of physicians. Consequently, until the uncertainty about transmission is resolved, the American Medical Association believes that HIV infected physicians should either abstain from performing invasive procedures which pose an identifiable risk of transmission or disclose their sero-positive status prior to performing a procedure and proceed only if there is informed consent.

As a corollary, physicians who are at risk of acquiring HIV infection, and who perform invasive procedures, should determine their HIV status.

Some invasive procedures pose no identifiable risk of transmission, e.g., a bronchoscopy. Others, such as surgical procedures, cannot, with the same conclusiveness, be said at this time to pose no identifiable risk of transmission given the current analysis of the Centers for Disease Control regarding three patients of a Florida dentist.

The American Medical Association further believes that physicians who are HIV positive and who must restrict their normal professional activities have a right to continue their career in medicine in a capacity that poses no identifiable risk to their patients. The American Medical Association pledges its support and protection of these physicians and believes the profession and the public have a need and an obligation to ensure that they continue to be productive as long as they practice medicine safely and responsibly.

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ADA

News Release

FOR IMMEDIATE RELEASE:
January 16, 1991

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The American Dental Association has adopted the following policy in response to the Centers for Disease Control January 18 Morbidity and Mortality Weekly Report on the possible transmission of HIV from an infected dentist to three patients.

The dental profession has long adhered to a moral commitment of service to the public and an ethical obligation to protect the health of the patient. An advisory opinion to the American Dental Association's Code of Professional Conduct urges dentists who become ill or impaired to limit the activities of practice to those areas that do not endanger either patients or dental staff.

Currently, there is no scientific evidence to indicate that HIV-positive healthcare providers pose an identifiable risk of HIV transmission to their patients. There has been only on documented case of transmission from an HIV-infected healthcare provider to patients during the past ten years of experience with AIDS, an indication that the risk is infinitesimal. The ADA continues to believe that the recommended infection control procedures are effective in preventing transmission of infection.

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However, the recent case of possible HIV transmission from dentist to patient has raised some uncertainty about the risk of transmission from healthcare provider to patient. While there is evidence that this dental practice did not consistently adhere to all recommended guidelines for prevention of disease transmission, the precise mechanism of transmission in this case remains unknown. This uncertainly leads to the conclusion that the foremost concern of the dental profession must continue to be protection of the patient. Thus, until the uncertainty about transmission is resolved, the ADA believes that HIV-infected dentists should refrain from performing invasive procedures or should disclose their seropositive status.

The American Dental Association will assist and support infected dentists in sustaining meaningful professional careers.

# # #

ASSOCIATION POSITION STATEMENTS

Additional Resources

American Academy of Orthopaedic Surgeons Task Force on AIDS and Orthopaedic Surgery, "Recommendations for the Prevention of Human Immunodeficiency Virus (HIV) Transmission in the Practice of Orthopaedic Surgery," (1989). (Copies may be ordered from the American Academy of Orthopaedic Surgeons, 222 South Prospect Avenue, Park Ridge, Illinois 60068; 708/823-7186.)

American Academy of Pediatrics Task Force on Pediatric AIDS, "Pediatric Guidelines for Infection Control of Human Immunodeficiency Virus (Acquired Immunodeficiency Virus) in Hospitals, Medical Offices, Schools, and Other Settings," 82 Pediatrics 801-807 (1988).

American College Health Association, "Statement on AIDS and International Education Issues," (1989). (Copies are available from the American College Health Association, 1300 Piccard Drive, Suite 200, Rockville, Maryland 20850; 301/963-1100.)

American College of Obstetricians and Gynecologists Committee on Ethics, "Human Immunodeficiency Virus Infection: Physicians' Responsibilities," 75 Obstetrics & Gynecology 1043-1045 (1990).

American College of Physicians and the Infectious Diseases Society of America, "The Acquired Immunodeficiency Syndrome (AIDS) and Infection with the Human Immunodeficiency Virus (HIV)," 108 Annals of Internal Medicine 460-469 (1988).

American Hospital Association, "Management of HIV Infection in the Hospital," the Recommendations of the Technical Panel on Infections within Hospitals, Third Edition, revised November 1988. (Copies may be ordered from the American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611.)

National Association of State Boards of Education. "Someone at School has AIDS: A Guide to Developing Policies for Students and School Staff Members who are Infected with HIV," (1989). (Copies may be ordered from NASBE, Publications Department, 1012 Cameron Street, Alexandria, Virginia 22314; 703/684-4000.)

Bibliography of Bioethics, Kennedy Institute of Ethics, Georgetown University, Washington, DC 20057.

> This publication contains a section devoted to Acquired Immunodeficiency Syndrome. The Bibliography lists, among other documents, position statements issued by various professional associations.

OCCUPATIONAL SAFETY AND HEALTH ISSUES

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

[Docket No. H-370]

RIN 1218-AB15

Occupational Exposure to Bloodborne Pathogens

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Proposed rule and notice of hearing

SUMMARY: The Occupational Safety and Health Administration proposes to reduce occupational exposure to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV) and other bloodborne pathogens under section 6(b) of the Occupational Safety and Health Act of 1970 (the Act), 29 U.S.C. 655. Based on a review of the available data, OSHA has made a preliminary determination that certain employees face a significant health risk as the result of occupational exposure to blood and other potentially infectious materials because they may contain bloodborne pathogens, including hepatitis B virus which causes Hepatitis B, a serious liver disease, and human immunodeficiency virus, which causes Acquired Immunodeficiency Syndrome (AIDS). The Agency preliminarily concludes that this significant health risk can be minimized or eliminated using a combination of engineering and work practice controls, personal protective clothing and equipment, training, medical follow-up of exposure incidents, vaccination (where applicable), and other provisions.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Introduction
II. Pertinent Legal Authority
III. Events Leading to the Proposed Standard
IV. Health Effects
V. Preliminary Quantitative Risk Assessment
VI. Significance of Risk
VII. Preliminary Regulatory Impact and Regulatory Flexibility Analysis
VIII. Environmental Impact
IX. Summary and Explanation of the Proposed Standard
X. Public Participation—Notice of Hearing
XI. Authority and Signature
XII. Standard

PART 1910—[AMENDED]

Subpart Z—[Amended]

1. The general authority citation for Subpart Z of 29 CFR Part 1910 continues to read as follows and a new citation for § 1910.1030 is added:

Authority: Secs. 6 and 8, Occupational Safety and Health Act, 29 U.S.C. 655, 657, Secretary of Labor's Orders Nos. 12–71 (36 FR 8754), 8–76 (41 FR 25059), or 9–83 (48 FR 35736), as applicable; and 29 CFR Part 1911.

* * * * *

Section 1910.1030 also issued under 29 U.S.C. 653.

* * * * *

2. Section 1910.1030 is added to read as follows:

§ 1910.1030 Bloodborne pathogens.

(a) *Scope and application.* This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.

(b) *Definitions.* For purposes of this section, the following shall apply:

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.

"Blood" means human blood, human blood components and products made from human blood.

"Bloodborne Pathogens" means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

"Clinical Laboratory" means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

"Director" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

"Disinfect" means to inactivate virtually all recognized pathogenic microorganisms but not necessarily all microbial forms (e.g. bacterial endospores) on inanimate objects.

"Engineering Controls" means controls that isolate or remove the hazard from the workplace.

"Exposure Incident" means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

"Infectious Waste" means blood and blood products, contaminated sharps, pathological wastes, and microbiological wastes.

"Occupational Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties. This definition excludes incidental exposures that may take place on the job, and that are neither reasonably nor routinely expected and that the worker is not required to incur in the normal course of employment.

"Other Potentially Infectious Materials" means

(1) The following body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid , amniotic fluid, saliva in dental procedures, and any body fluid that is visibly contaminated with blood.

(2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead) and

(3) HIV- or HBV-containing cell or tissue cultures, organ cultures, and culture medium or other solutions; and blood, organs or other tissues from experimental animals infected with HIV or HBV.

"Parenteral" means exposure occurring as a result of piercing the skin barrier (e.g. subcutaneous, intramuscular, intravenous routes).

"Patient" means any individual, living or dead, whose blood, body fluids, tissues, or organs may be a source of exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the mentally retarded; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains prior to embalming; and individuals who donate or sell blood or blood components.

"Personal Protective Equipment" is specialized clothing or equipment worn by an employee to protect him/her from a hazard.

"Production Facility" means a facility engaged in industrial-scale, large-volume production of HIV or HBV or in high concentration production of HIV or HBV.

"Research Laboratory" means a laboratory producing research-laboratory-scale amounts of HIV or HBV.

"Sharps" means any object that can penetrate the skin including, but not limited to, needles, scalpels, and broken capillary tubes.

"Sterilize" means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

"Universal precautions" is a method of infection control in which all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV and other bloodborne pathogens.

"Work Practice Controls" means controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

(c) *Infection control*— (1) *Exposure Determination.* (i) Each employer who has employees with occupational exposure as defined by paragraph (b) of this section shall identify and document those tasks and procedures where occupational exposures may take place.

(ii) Each employer shall identify and document all positions with occupational exposure.

(iii) This exposure determination shall be made without regard to the use of personal protective equipment.

(2) *Infection Control Plan.* (i) Each employer having employees whose reasonably anticipated duties may result in occupational exposure shall establish a written infection control plan designed to minimize or eliminate employee exposure.

(ii) This infection control plan shall contain the following as a minimum:

(A) The exposure determination required by paragraph (c)(1) and

(B) The schedule and method of implementation for each of the applicable paragraphs of this standard.

(iii) This infection control plan shall be reviewed and updated as necessary to reflect significant changes in tasks or procedures.

(iv) The infection control plan shall be made available to the Assistant Secretary and the Director for examination and copying.

(d) *Methods of Compliance*— (1) *General.* Universal precautions shall be observed to prevent contact with blood and other potentially infectious materials, unless those precautions would interfere with the proper delivery of health care or public safety services in a particular circumstance, or would create a significant risk to the personal safety of the worker.

(2) *Engineering and work practice controls.* (i) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

(ii) Employees shall wash their hands immediately or as soon as possible after removal of gloves or other personal protective equipment and after hand contact with blood or other potentially infectious materials.

(iii) All personal protective equipment shall be removed immediately upon leaving the work area or as soon as possible if overtly contaminated and placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

(iv) Used needles and other sharps shall not be sheared, bent, broken, recapped, or resheathed by hand. Used needles shall not be removed from disposable syringes.

(v) Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a potential for occupational exposure.

(vi) Food and drink shall not be stored in refrigerators, freezers, or cabinets where blood or other potentially infectious materials are stored or in other areas of possible contamination.

(vii) All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, and aerosolization of these substances.

(viii) Mouth pipetting/suctioning is prohibited.

(3) *Personal protective equipment*— (i) *Provision and Use.* When there is a potential for occupational exposure, the employer shall provide and assure that the employee uses appropriate personal protective equipment such as, but not limited to, gloves; gowns, fluid-proof aprons, laboratory coats, and head and foot coverings; face shields or masks and eye protection; and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices.

(ii) *Accessibility.* The employer shall assure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or issued to employees. Hypoallergenic gloves shall be readily accessible to those employees who are allergic to the gloves normally provided.

(iii) *Cleaning.* The employer shall provide for the cleaning, laundering or disposal of personal protective equipment required by paragraphs (d) and (e) of this standard.

(iv) *Repair and replacement.* The employer shall repair or replace required personal protective equipment as needed to maintain its effectiveness.

(v) *Gloves.* Gloves shall be worn when the employee has the potential for the hands to have direct skin contact with blood, other potentially infectious materials, mucous membranes, non-intact skin, and when handling items or surfaces soiled with blood or other potentially infectious materials.

(A) Disposable (single use) gloves, such as surgical or examination gloves, shall be replaced as soon as possible when visibly soiled, torn, punctured, or when their ability to function as a barrier is compromised. They shall not be washed or disinfected for re-use.

(B) Utility gloves may be disinfected for re-use if the integrity of the glove is not compromised, however they must be discarded if they are cracked, peeling, discolored, torn, punctured, or exhibit other signs of deterioration.

(vi) *Masks, Eye Protection, and Face Shields.* Masks and eye protection or chin-length face shields shall be worn whenever splashes, spray, spatter, droplets, or aerosols of blood or other potentially infectious materials may be generated and there is a potential for eye, nose, or mouth contamination.

(vii) *Gowns, Aprons, and Other Protective Body Clothing.* Appropriate protective clothing shall be worn when the employee has a potential for occupational exposure. The type and characteristics will depend upon the task and degree of exposure anticipated; however, the clothing selected shall form an effective barrier.

(A) Gowns, lab coats, aprons, or similar clothing shall be worn if there is a potential for soiling of clothes with blood or other potentially infectious materials.

(B) Fluid-resistant clothing shall be worn if there is a potential for splashing or spraying of blood or other potentially infectious materials.

(C) Surgical caps or hoods shall be worn if there is a potential for splashing or splattering of blood or other potentially infectious materials on the head.

(D) Fluid-proof clothing shall be worn if there is a potential for clothing becoming soaked with blood or other potentially infectious materials.

(E) Fluid-proof shoe covers shall be worn if there is a potential for shoes to become contaminated and/or soaked with blood or other potentially infectious materials.

(4) *Housekeeping*—(i) *General.* Employers shall assure that the worksite is maintained in a clean and sanitary condition. The employer shall determine and implement the appropriate written schedule for cleaning and method of disinfection based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed.

(ii) *Cleaning and Disinfection.* All equipment and environmental and working surfaces shall be properly cleaned and disinfected after contact with blood or other potentially infectious materials.

(A) Work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; when surfaces are overtly contaminated; immediately after any spill of blood or other potentially infectious materials; and at the end of the work shift.

(B) Protective coverings such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper may be used to cover equipment and environmental surfaces. These coverings shall be removed and replaced at the end of the work shift or when they become overtly contaminated.

(C) Equipment which may become contaminated with blood or other potentially infectious materials shall be checked routinely and prior to servicing or shipping and shall be decontaminated as necessary.

(D) All bins, pails, cans, and similar receptacles intended for reuse which have a potential for becoming contaminated with blood or other potentially infectious materials shall be inspected, cleaned, and disinfected on a regularly scheduled basis and cleaned and disinfected immediately or as soon as possible upon visible contamination.

(E) Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, a vacuum cleaner, tongs, cotton swabs or forceps.

(F) Specimens of blood or other potentially infectious materials shall be placed in a closable, leakproof container labeled or color-coded according to paragraph (g)(1)(ii) prior to being stored or transported. If outside contamination of the primary container is likely, then a second leakproof container that is labeled or color-coded according to paragraph (g)(1)(ii) shall be placed over the outside of the first and closed to prevent leakage during handling, storage, or transport. If puncture of the primary container is likely, it shall be placed within a leakproof, puncture-resistant secondary container.

(G) Reusable items contaminated with blood or other potentially infectious materials shall be decontaminated prior to washing and/or reprocessing.

(iii) *Infectious Waste Disposal.* (A) All infectious waste destined for disposal shall be placed in closable, leakproof containers or bags that are color coded or labeled as required by paragraph (g)(1)(ii) of this standard.

(*1*) If outside contamination of the container or bag is likely to occur then a second leakproof container or bag which is closable and labeled or color-coded as described in paragraph (g)(1)(ii) shall be placed over the outside of the first and closed to prevent leakage during handling, storage, and transport.

(*2*) Disposal of all infectious waste shall be in accordance with applicable Federal, state, and local regulations.

(B) Immediately after use, sharps shall be disposed of in closable, puncture resistant, disposable containers which are leakproof on the sides and bottom and that are labeled or color-coded according to paragraph (g)(1)(ii).

(*1*) These containers shall be easily accessible to personnel and located in the immediate area of use.

(*2*) These containers shall be replaced routinely and not allowed to overfill.

(iv) *Laundry.* (A) Laundry from workplaces with employees covered under paragraph (a) of this section that is contaminated with blood or other potentially infectious materials or may contain contaminated sharps shall be treated as if it were contaminated and shall be handled as little as possible and with a minimum of agitation.

(*1*) Contaminated laundry shall be bagged at the location where it was used and shall not be sorted or rinsed in patient-care areas.

(*2*) Contaminated laundry shall be placed and transported in bags that are labeled or color-coded as described in paragraph (g)(1)(ii). Whenever this laundry is wet and presents the potential for soak-through of or leakage from the bag, it shall be placed and transported in leakproof bags.

(B) The employer shall ensure that laundry workers wear protective gloves and other appropriate personal protective equipment to prevent occupational exposure during handling or sorting.

(e) *HIV and HBV Research Laboratories and Production Facilities.* (1) This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

(2) Research laboratories and production facilities shall meet the following criteria:

(i) *Standard microbiological practices.* All infectious liquid or solid waste shall be decontaminated before being disposed of.

(ii) *Special practices.* (A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

(B) Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof container that is closed before being removed from the work area.

(C) Access to the work area shall be limited to authorized persons only. Policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.

(D) When potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with the provisions outlined in paragraph (g)(1)(i) of this standard.

(E) All activities involving potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work shall be conducted in open vessels on the open bench.

(F) Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work

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area and shall be decontaminated before being laundered.

(G) Special care shall be taken to avoid skin contamination with potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with potentially infectious materials is unavoidable.

(H) All waste from work areas including animal rooms shall be decontaminated before disposal.

(I) Vacuum lines shall be protected with high-efficiency particulate air (HEPA) filters and liquid disinfectant traps.

(J) Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of potentially infectious fluids. Extreme caution shall be used when handling needles and syringes to avoid autoinoculation and the generation of aerosols during use and disposal. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and decontaminated, preferably by autoclaving, before being discarded or reused.

(K) Spills and accidents that result in overt exposures of employees to potentially infectious materials shall be immediately reported to the laboratory director or other responsible person.

(L) A biosafety manual shall be prepared or adopted. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

(iii) *Containment equipment.* (A) Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.

(B) Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

(3) HIV and HBV research laboratories shall meet the following criteria:

(i) Each laboratory shall contain a sink for hand washing.

(ii) An autoclave for decontamination of infectious laboratory waste shall be available.

(4) HIV and HBV production facilities shall meet the following criteria:

(i) The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.

(ii) The interior surfaces of walls, floors and ceilings shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination of the work area.

(iii) Each work area shall contain a sink for washing hands. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.

(iv) Access doors to the work area or containment module shall be self-closing.

(v) An autoclave for decontamination of infectious waste shall be available within or as near as possible to the work area.

(vi) A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

(5) Training requirements. Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(v).

(f) Hepatitis B Vaccination and Post Exposure Follow-up—(1) *General.* (i) The employer shall make available hepatitis B vaccination to all employees who have occupational exposure on average one or more times per month and post-exposure follow-up for all employees with an occupational exposure incident.

(ii) The employer shall assure that all medical evaluations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.

(iii) The employer shall assure that all evaluations, procedures, vaccinations, and post-exposure management are provided to the employee at a reasonable time and place, and according to standard recommendations for medical practice.

(2) *HBV Vaccination.* (i) HBV vaccination shall be offered to all employees occupationally exposed on an average of one or more times per month to blood or other potentially infectious materials, unless the employee has a previous HBV vaccination or unless antibody testing has revealed that the employee is immune. If the employee initially declines HBV vaccination but at a later date while still covered under the standard decides to accept the HBV vaccine, the employer shall provide the vaccine at that time. Should a booster dose(s) be recommended at a future date, such booster dose(s) shall be provided according to standard recommendations for medical practice.

(ii) HBV antibody testing shall be made available to an employee who desires such testing prior to deciding whether or not to receive HBV vaccination. If the employee is found to be immune to HBV by virtue of adequate antibody titer, then the employer is not required to offer the HBV vaccine to that employee.

(3) *Post exposure evaluation and follow-up.* Following a report of an exposure incident, the employer shall make available to each employee covered by paragraph (a) a confidential medical evaluation and follow-up, including at least the following elements:

(i) Documentation of the route(s) of exposure, HBV and HIV antibody status of the source patient(s) (if known), and the circumstances under which the exposure occurred.

(ii) If the source patient can be determined and permission is obtained, collection of and testing of the source patient's blood to determine the presence of HIV or HBV infection.

(iii) Collection of blood from the exposed employee as soon as possible after the exposure incident for the determination of HIV and/or HBV status. Actual antibody or antigen testing of the blood or serum sample may be done at that time or at a later date if the employee so requests.

(iv) Follow-up of the exposed employee including antibody or antigen testing, counseling, illness reporting, and safe and effective post-exposure prophylaxis, according to standard recommendations for medical practice.

(4) *Information provided to the physician.* The employer shall provide the following information to the evaluating physician:

(i) A copy of this regulation and its appendices and

(ii) A description of the affected employee's duties as they relate to the employee's occupational exposure.

(5) *Physician's written opinion.* For each evaluation under this section, the employer shall obtain and provide the employee with a copy of the evaluating physician's written opinion within 15 working days of the completion of the evaluation. The written opinion shall be limited to the following information:

(i) The physician's recommended limitations upon the employee's ability to receive hepatitis B vaccination.

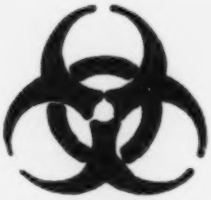
(ii) A statement that the employee has been informed of the results of the medical evaluation and that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

(iii) Specific findings or diagnoses, which are related to the employee's ability to receive HBV vaccination. Any other findings and diagnoses shall remain confidential.

(6) *Medical recordkeeping.* Medical records required by this standard shall be maintained in accordance with paragraph (h)(1) of this section.

(g) *Communication of Hazards to Employees*—(1) *Signs and Labels*—(i) *Signs.* The employer shall post signs at the entrance to work areas specified in paragraph (e) of this standard which shall bear the following legend:

BIOHAZARD



[Name of the Infectious Agent]

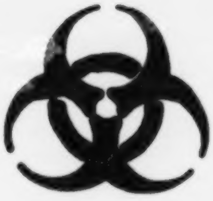
[Special requirements for entering the area]

[Name, telephone number of the laboratory director or other responsible person.]

(ii) *Labels.* (A) Warning labels shall be affixed to containers of infectious waste; refrigerators and freezers containing blood and other potentially infectious materials; and other containers used to store or transport blood or other potentially infectious materials except as provided in paragraph (g)(1)(ii) (E) and (F).

(B) Labels required by this section shall include the following legend:

BIOHAZARD



(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering or symbols in a contrasting color.

(D) Labels required by paragraph (g)(1)(ii) shall either be an integral part of the container or shall be affixed as close as safely possible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

(E) Red bags or red containers may be substituted for labels on containers of infectious waste.

(F) Containers of blood or blood components that are labeled as to their contents and have been released for distribution are exempted from the labeling requirements of paragraph (g).

(2) *Information and Training.* (i) Employers shall ensure that all employees with occupational exposure participate in a training program.

(ii) Training shall be provided at the time of initial employment or within 90 days after the effective date of this standard and at least annually thereafter.

(iii) Material appropriate in content and vocabulary to educational level, literacy, and language background of employees shall be used.

(iv) The training program shall contain the following elements:

(A) A copy of this standard and an explanation of its contents:

(B) A general explanation of the epidemiology and symptoms of bloodborne diseases:

(C) An explanation of the modes of transmission of bloodborne pathogens:

(D) An explanation of the employer's infection control program.

(E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;

(F) An explanation of the use and limitations of practices that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;

(G) Information on the types, proper use, location, removal, handling, decontamination and/or disposal of personal protective equipment;

(H) An explanation of the basis for selection of personal protective equipment;

(I) Information on the hepatitis B vaccine, including information on its efficacy, safety, and the benefits of being vaccinated.

(J) Information on the appropriate actions to take and persons to contact in an emergency;

(K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available. Also information on the medical counseling that the employer is providing for exposed individuals; and

(L) An explanation of the signs and labels and/or color coding required by paragraph (g)(1).

(v) Additional training. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following training in addition to the above training requirements:

(A) Employees shall be trained in and demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.

(B) Employees shall be experienced in the handling of human pathogens or tissue cultures prior to working with HIV or HBV.

(C) A training program shall be provided to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed

The employee shall participate in work activities involving infectious agents only after proficiency has been demonstrated.

(h) *Recordkeeping*—(1) *Medical records.* (i) The employer shall establish and maintain an accurate record for each employee subject to paragraph (f) of this section, in accordance with 29 CFR 1910.20.

(ii) This record shall include:

(A) The name and social security number of the employee:

(B) A copy of the employee's hepatitis B vaccination records and medical records relative to the employee's ability to receive vaccination or the circumstances of an exposure incident:

(C) A copy of all results of physical examinations, medical testing, and follow-up procedures as they relate to the employee's ability to receive vaccination or to post exposure evaluation following an exposure incident;

(D) The employer's copy of the physician's written opinion; and

(E) A copy of the information provided to the physician as required by paragraphs (f)(4).

(iii) Confidentiality. The employer shall assure that employee medical records required by paragraph (f) are:

(A) Kept confidential; and

(B) Are not disclosed or reported to any person within or outside the workplace except as required by this section or as may be required by law.

(iv) The employer shall maintain this record for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.20.

(2) *Training Records.* (i) Training records shall include the following information:

(A) The dates of the training sessions:

(B) The contents or a summary of the training sessions;

(C) The names of persons conducting the training; and

(D) The names of all persons attending the training sessions.

(ii) These records shall be maintained for 5 years.

(3) *Availability.* (i) The employer shall assure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, employee representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20.

(iii) Employee medical and training records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, and to the Assistant Secretary in accordance with 29 CFR 1910.20.

(4) *Transfer of records.* (i) The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.20(h).

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three months prior to their disposal and transmit them to the Director if required by the Director to do so within that three month period.

(i) *Dates*—(1) Effective Date. The standard shall become effective on [Insert date 30 days after publication in the **Federal Register**].

(2) Exposure Determination. The exposure determination required by paragraph (c)(1) of this section shall be completed within 90 days of the effective date of this standard.

(3) Infection Control Plan. The Infection Control Plan required by paragraph (c)(2) of this section shall be completed within 120 days of the effective date of this standard.

(4) Paragraphs (d)(2) Engineering and Work Practice Controls, (d)(3) Personal Protective Equipment, (d)(4) Housekeeping, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Follow-up, (g) Communication of Hazards to Employees, and (h) Recordkeeping shall take effect 150 days after the effective date of this standard. OSHA expects that the employer will have initiated, but perhaps not completed, the HBV vaccination series within this time period.

[FR Doc. 89-12470 Filed 5-23-89; 8:45 am]

BILLING CODE 4510-26-M

1815. BLOODBORNE PATHOGENS

Significance: Regulatory Program

Legal Authority: 29 USC 655 et seq

CFR Citation: 29 CFR Not yet determined

Legal Deadline: None

Abstract: Many health-care workers are exposed to blood and body fluids from patients who have active bloodborne infections or are carriers of these infections. Such exposure presents a potential risk of disease for the health-care worker. One such disease, Hepatitis B, has been shown to present a substantially increased risk for health-care workers. Hepatitis B is a serious disease that may require hospitalization and, in a small percentage of cases, is fatal. Another bloodborne disease, Acquired Immune Deficiency Syndrome (AIDS) is also of great concern to health-care workers. Only a very small number of infections, however, have been documented to have resulted from occupational exposure to the virus that causes AIDS. About half of the nation's 6 million health-care workers are at increased risk from exposure to bloodborne infectious diseases. (cont)

Timetable:

Action	Date	FR Cite
ANPRM	11/27/87	52 FR 45438
ANPRM Comment Period End	01/26/88	52 FR 45438
NPRM	05/30/89	54 FR 23042
Final Action	05/00/91	

Small Entities Affected: Undetermined

Government Levels Affected: Undetermined

Additional Information: ABSTRACT CONT: Some examples of health-care workers at highest risk are emergency room workers, dialysis unit workers, operating room personnel, intensive care unit workers, and blood bank employees. The Occupational Safety and Health Administration (OSHA) has no standard specifically regulating occupational exposure to bloodborne infectious diseases. In 1983, the Agency issued guidelines for reducing the occupational risk of Hepatitis B infection (OSHA Instruction CPL 2-2.36). These guidelines are voluntary, however. In September 1986, OSHA was petitioned by the American Federation of State, County and Municipal Employees and other unions for the issuance of an emergency temporary standard to protect workers from occupational exposure to bloodborne infectious diseases, such as hepatitis B and AIDS. On May 30, 1989, OSHA published its proposal in the Federal Register (54 FR 23042). The proposal generated over 2900 comments and hearings were held in Washington, DC, Chicago, New York City, Miami, Florida, and San Francisco. OSHA will review the comments and the testimony presented at the hearings to determine the scope and provisions of a final rule.

Agency Contact: Charles E. Adkins, Director, Health Standards Programs, Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, NW., Rm N3718, FPBldg., Washington, Dc 20210, 202 523-7075

RIN: 1218–AB15

OCCUPATIONAL
SAFETY AND
HEALTH
ADMINISTRATION

TECHNICAL NOTES

U.S. DEPARTMENT OF LABOR
Washington D.C. 20210

Note: In the interest of brevity, the Williams-Steiger Occupational Safety and Health Act of 1970 may be referred to as the "Job Safety and Health Act" or as "the Act." The Occupational Safety and Health Administration may be referred to as "OSHA."

Technical Note #23 March 1, 1990

OSHA CLARIFIES DIRECTIVE ON INSPECTION OF HEALTH CARE FACILITIES, INCLUDING FREE HEPATITIS B VACCINATIONS FOR HIGH RISK WORKERS

OSHA today clarified its directive on inspections of health care facilities by stating that employers must furnish free hepatitis B vaccinations to all health care workers who are at substantial risk of exposure to the hepatitis B virus.

In its revised directive, the agency entered the words "free of charge" to its instructions that the vaccine "be offered" to the employees who are at substantial risk of direct contact with body fluids.

The clarification is one of several in the directive which OSHA's enforcement personnel follow when conducting inspections for compliance with OSHA standards covering health care and other workers potentially exposed to the hepatitis B and AIDS viruses.

Previously, it was not spelled out that an employer, under OSHA's general duty clause, should provide this vaccine at no cost to the employee. The general duty clause requires an employer to provide a safe and healthful workplace for his employees and vaccination was one of the methods recommended for abating the exposure hazard to the hepatitis B virus.

Other clarifications state that:

--employers are required to record needlesticks on OSHA form 200 if medical treatment is required as a result;

--the use of fluid-proof or fluid-resistant gowns instead of impervious gowns is permitted when splashes of body fluids onto skin or clothing are likely to occur;

--and the use of resheathing instruments or other mechanical devices for recapping needles is permitted.

Those occupations with high risk for blood-borne infections due to increased exposure to body fluids from potentially infected patients include but are not limited to physicians; pathologists; dentists and dental technicians; phlebotomists; emergency room, intensive care and operating room nurses and technicians; and laboratory and blood bank technologists and technicians.

Other health care workers who may be exposed to such body fluids depending on their work assignments include housekeeping personnel, laundry workers, orderlies, morticians, research laboratory workers, paramedics, and medical examiners.

Employees in any occupation where they are exposed to body fluids are considered to be at substantial risk of occupational exposure to the bloodborne diseases.

Ward clerks and administrators who do not have contact with blood are at no greater risk of contracting blood-borne diseases than other members of the general population.

The section in the revised OSHA enforcement procedures referring to hepatitis B vaccination reads:

"The facility's IC (infection control) policy regarding hepatitis B vaccination shall address all circumstances warranting such vaccinations and shall identify employees at substantial risk of directly contacting body fluids."

"All such employees shall be offered hepatitis B vaccination free of charge in amounts and at times prescribed by standard medical practice."

OSHA is relying on guidelines published by the Centers for Disease Control as a widely recognized and accepted standard to be followed by employers in carrying out their responsibilities under the Occupational Safety and Health Act.

Single copies of the document containing the revised enforcement procedures may be obtained from OSHA Publications, Room N-3101, 200 Constitution Ave. NW, Washington, D.C., by sending a self-addressed mailing label.

Copies also are available from local and regional OSHA offices (listed under the U.S. Department of Labor in government telephone directory listings).

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U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

OSHA Instruction CPL 2-2.44B

Office of Health Compliance Assistance

SUBJECT: Enforcement Procedures for Occupational Exposure to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

A. Purpose. This instruction provides uniform inspection procedures and guidelines to be followed when conducting inspections and issuing citations under section 5(a)(1) of the Act and pertinent standards for health care workers potentially exposed to HBV and HIV.

B. Scope. This instruction applies OSHA-wide.

C. Cancellation. This instruction cancels OSHA Instruction CPL 2-2.44A, August 15, 1988.

D. References.

1. OSHA Instruction CPL 2.45B, June 15, 1989, the Field Operations Manual (FOM).
2. OSHA Instruction ADM 1-1.12B, December 29, 1989, the Integrated Management Information System (IMIS) Forms Manual.
3. OSHA Instruction CPL 2-2.36, November 30, 1983, Hepatitis B Risks in the Health Care System.
4. Centers for Disease Control. Acquired Immunodeficiency Syndrome, AIDS--Recommendations and Guidelines November 1982-November 1986.
5. Centers for Disease Control Morbidity and Mortality Weekly Report. Update on Hepatitis B Prevention. June 19, 1987; Vol. 36, No. 23.
6. Centers for Disease Control Morbidity and Mortality Weekly Report. 1988 Agent Summary Statement for Human Immunodeficiency Virus and Report on Laboratory-Acquired Infection with Human Immunodeficiency Virus. April 1, 1988; Vol. 37, No. S-4.

E. Action. Regional Administrators and Area Directors shall ensure that the policies and procedures explained in this instruction are implemented in scheduling and conducting inspections. Regional Administrators shall further ensure that all relevant procedures established in this instruction are adhered to by State 7(c)(1) consultation projects.

F. Federal Program Change. This instruction describes a Federal Program change which affects State programs. Each Regional Administrator shall:

1. Ensure that this change is promptly forwarded to each State designee.

2. Explain the technical content of this change to the State designee as requested.

3. Ensure that State designees are asked to acknowledge receipt of this Federal program change in writing, within 30 days of notification, to the Regional Administrator. Procedures and timeframes for State notification, acknowledgement and plan supplement submission are set out in OSHA Instruction STP 2.22A, CH-2, Chapter III, Paragraph I.1.a.

    a. Paragraph I.1.a.(1) contains procedures Regional Administrations shall follow in notifying States of federal program changes via two-way memoranda.

    b. Paragraph I.1.a.(2) contains procedures for State response. (States should acknowledge receipt as soon as the State's intentions are known, but must do so no later that 70 calendar days after the date of issuance. The State's acknowledgement must indicate its intention to follow OSHA's policies and procedures, or describe its intended alternative policy and/or procedures, which must be "at least as effective" as OSHA's.

    c. State plan supplements must be submitted according to the schedule established in OSHA Instruction STP 2.22A, CH-2, Paragraph I.1.a.(3).

    d. Although States are not required to enforce General Duty Provisions, they are strongly urged to do so.

4. Advise State designees of the following:

   a. In order to ensure a sound and consistent national enforcement and litigation strategy in relation to the complex issues addressed by this instruction, State implementation of the procedures in this instruction, or comparable State procedures, must be carefully coordinated with OSHA.

   b. The State is also responsible for extending coverage under its procedures for addressing occupational exposure to HBV and HIV in the public sector, such as police, fire, ambulance and other emergency response workers.

   c. The Directorate of Technical Support is available to assist the States in locating expert witnesses. (See paragraph O., Expert Witnesses.)

   d. In regard to paragraph I., Inspection Scheduling, Goal and Scope, the State's response to the Regional Administrator is to include a projection of the number of inspections the State expects to conduct in both the private and public sector.

5. After Regional review of the State plan supplement and resolution of any comments thereon, forward the State submission to the National Office in accordance with established procedures. The Regional Administrator shall provide a judgment on the relative effectiveness of each substantial difference in the State plan change and an overall assessment thereon with a recommendation for approval or disapproval by the Assistant Secretary.

6. Review policies, instructions and guidelines issued by the State to determine that this change has been communicated to State program personnel.

G. Definitions.

1. Health Care Facility. Those establishments listed under the Standard Industrial Classification (SIC) codes 80** and 7261; and clinics, health units, and nurses' stations at industrial work sites.

2. Health Care Worker. An employee of a health care facility including, but not limited to, nurses,

physicians, dentists and other dental workers, optometrists, podiatrists, chiropractors, laboratory and blood bank technologists and technicians, research laboratory scientist, phlebotomists, dialysis personnel, paramedics, emergency medical technicians, medical examiners, morticians, housekeepers, laundry workers and others whose work may involve direct contact with body fluids, as defined below, from living individuals or corpses.

3. Universal Precautions. The term "universal precautions" refers to a system of infectious disease control which assumes that every direct contact with body fluids is infectious and requires every employee exposed to direct contact with body fluids to be protected as though such body fluids were HBV- or HIV-infected. Therefore, universal precautions are intended to prevent health care workers from parenteral, mucous membrane, and nonintact skin exposures to blood-borne pathogens.

4. Body Fluids. Fluids that have been recognized by CDC as directly linked to the transmission of HIV and/or HBV and/or to which universal precautions apply: blood, semen, blood products, vaginal secretions, cerebrospinal fluid, synovial fluid, pericardial fluid, amniotic fluid, and concentrated HIV or HBV viruses.

5. Phlebotomist. A phlebotomist is any health care worker who draws blood samples.

6. Infection Control (IC) Program. An IC program is the establishment's oral or written policy and implementation of procedures relating to the control of infectious disease hazards where employees may be exposed to direct contact with body fluids. An IC Program must address all of the areas outlined in this directive.

7. Joint Advisory Notice. Department of Labor/Department of Health and Human Services-Joint Advisory Notice (Federal Register, Vol. 52, No. 210; October 30, 1987) is a list of recommendations developed to assist employers in implementing the Centers for Disease Control (CDC) guidelines.

H. Background. In September 1986, OSHA was petitioned by various unions representing health care employees to develop a standard to protect workers from occupational exposure to blood-borne diseases. Although the Agency has decided to pursue development of such a standard, as a result of recent rulemaking petitions and OSHA's evaluation of those petitions, the Agency has concluded that the risk of contracting hepatitis B and AIDS among members of various occupations within the health care system requires an immediate response through a variety of existing mechanisms.

1. Occupational exposure may occur in many ways, including needlestick and cut injuries. Health care workers employed in certain occupations are assumed to be at high risk for blood-borne infections due to their routinely increased exposure to body fluids from potentially infected patients. These high risk occupations include but are not limited to physicians, pathologists, dentists and dental technicians, x-ray technicians, phlebotomists, emergency room, intensive care and operating room nurses and technicians, laboratory and blood bank technologists and technicians. Other health care workers who may be directly exposed to such body fluids depending on their exact work assignments include such occupations as housekeeping personnel, laundry workers, orderlies, morticians, research laboratory workers, paramedics, medical examiners. Employees in any occupation where they are directly exposed to body fluids are considered to be at substantial risk of occupational exposure to HIV and/or HBV.

2. Ward clerks and administrators have virtually no increased risk of contact with body fluids as a result of their employment; they are thus at no greater risk of contracting blood-borne diseases than other members of the general population.

3. Neither HBV nor HIV is transmitted by casual contact in the workplace.

4. The employer's obligations are those set forth in the Occupational Safety and Health Act (OSH Act) of 1970. However, the CDC has published guidelines to protect workers from HBV and HIV (See Appendices A & B). OSHA is relying on these guidelines as reflecting an appropriate and widely recognized and accepted standard of

protection to be followed by health care employers in carrying out their responsibilities under the OSH Act.

5. The same personal protective equipment and work practices used to prevent occupational transmission of HBV are effective in preventing occupational transmission of HIV. The CDC has called for use of "universal precautions" when working with blood and/or body fluids from any patient.

6. One difference between the two viruses is that there is currently a vaccine to prevent HBV infection, which the CDC has recommended for persons at substantial risk of occupational exposure, but thee is no vaccine for HIV.

I. Inspection Scheduling, Goal and Scope.

1. Inspection scheduling shall be conducted in accordance with the procedures outlined in the FOM, Chapter II, and for Federal agencies, Chapter XIII, except as modified in the following sections.

2. The National Office shall develop and distribute a list of health care establishments by State to the appropriate Regional Administrators to identify the establishments to be programmed for inspection within the Region.

    a. This list shall be randomly selected from among all establishments identified as being within the health care industries, viz., those industries having primary Standard Industrial Classification (SIC) codes 80** (Health Services) and 7261 (Funeral Service and Crematories).

    b. A widely available commercial listing shall be the source of such establishments (Duns Marketing Service).

    c. All establishments listed as having less than 11 employees shall be excluded from the list.

    d. More establishments will be provided to the Regions than will actually be needed to allow for replacement of establishments.

3. The Regional Administrator shall use an additional random selection method to identify the establishments actually to be programmed for inspection within the Region.

    a. The number of health care establishments to be selected from the list provided by the National Office shall be at least equal to the inspection goal identified in the annual program plan developed for the Region.

    b. The names of the establishments selected by the Regional Administrator shall be distributed to the appropriate Area Office and shall constitute the Inspection Register for that office.

    c. An inspection of all establishments listed on the Inspection Register shall be conducted unless they are deleted for dome legitimate reason.

4. Any establishment deleted shall be replaced by another establishment selected according to I.3.

    a. Area Directors shall inform the Regional Administrator of any deletions.

    b. The Regional Administrator shall select the next establishment by random number procedure from the list provided by the National Office.

    c. Because of the random number selection procedures, it may happen that the next establishment does not belong to the same Area Office jurisdiction and may have to be assigned to an Area Office other than the one deleting the first establishment.

5. When an inspection of an establishment listed on the Health Care Inspection Register is not conducted because the employer has refused entry, a warrant shall be sought in accordance with the current procedure for handling such refusals. Only if the court refuses to grant a warrant of if the Regional Solicitor declines to apply for a warrant, is such an establishment to be replaced according to I.3.

6. Each Region shall conduct the minimum number of health care facility inspections (e.g., hospitals, clinical

laboratories, blood donor centers, etc.) annually identified in this program plan.

7. All inspections, programmed or unprogrammed, conducted at health care facilities or at other facilities (such as manufacturing plants) which support an onsite health care unit shall be directed to all areas involving the hazard of direct exposure to body fluids potentially contaminated with HBV or HIV.

    a. Primary areas of concern are emergency rooms, operating rooms, direct patient care areas, laboratories, and x-ray. Secondary areas of concern are laundry and housekeeping.

    b. Records review procedures for the purpose of conducting a records only inspection do not apply.

    c. Expansion to additional units may be appropriate when:

        (1) The IC program shows significant deficiencies in complying with OSHA requirements, as set forth in this instruction, that may indicate the existence of more widespread problems.

        (2) Relevant complaints are received from employees which are specifically related to direct exposures to body fluids.

J. Inspection Procedures. The procedures given in the FOM, Chapter III, shall be followed except as modified in the following sections.

1. When entering a hospital or health care facility, the CSHO shall locate the Hospital Administrator, the Medical Director or other person in charge and present credentials.

2. Health care facilities generally administer internal IC programs. This function may be performed by a committee or an individual. Upon entry the CSHO shall request the presence of the infection control nurses and/or other individuals who will be responsible for providing records pertinent to the inspection.

3. Careful examination of the facility's IC program is the core element of these inspections. Occupational injury and illness records shall be carefully scrutinized, and employees selected from all appropriate areas of the facility shall be interviewed to verify both the accuracy of the OSHA-200 records and the effectiveness of the IC program.

4. Needlesticks, like any other puncture wound, are considered injuries for recordkeeping purposes due to the instantaneous nature of the event. Only those work-related injuries that involve loss of consciousness, transfer to another job, restriction of work or motion, or medical treatment are required to be put on the OSHA 200 form. Use of prescription medication (beyond a single dose for minor injury or discomfort) is considered medical treatment. Therefore, any needlestick requiring medical treatment (e.g., gamma globulin, hepatitis B immune globulin, hepatitis B vaccine, etc.) shall be recorded. In addition, since this type of treatment is considered absolutely necessary, and must be administered by a physician or licensed medical personnel, such an injury cannot be considered minor.

5. In the event the facility being inspected does not have a formal IC program, employee interviews, combined with an inspection of appropriate areas of the facility shall be used to determine the effectiveness of the establishment's efforts to protect employees from exposure to potential infectious disease sources.

6. CSHOs shall use appropriate caution when entering patient care areas of the facility. When such visits are judged necessary for determining actual conditions in the facility, the privacy of patients shall be respected. Photographs of patients will not normally be necessary and in no even shall identifiable photographs be taken without their consent.

7. The walkaround portion of the inspection shall consist of a spot-check approach. The CSHO shall identify on the basis of professional judgment what areas should be physically checked out and to what extent. It is not expected that a comprehensive walkaround inspection of the workplace will be necessary. The CSHO is to be satisfied that an IC program is in place and judged to

be effective.

8. If an inspection is conducted in an establishment outside of SIC codes 80** and 7261, and a health care unit is on site, the provisions of Sections J through T apply and shall be enforced.

K. Federal Agency Facilities. Health care facilities owned by agencies of the Federal Government are subject to inspection under this instruction.

1. Where an inspection other than one scheduled on the regular Federal establishment targeting list is to be made at a Federal health care facility in accordance with this instruction, notification of agency headquarters personnel, through the Office of Federal Agency Programs (OFAP), shall be accomplished prior to any facility visits.

2. Actual onsite visits shall be coordinated between Regional/Area Office and the establishment being inspected.

L. Citation Policy. The provisions of the FOM, Chapters IV and V, shall be followed when issuing citations for hazards related to blood-borne infectious diseases.

1. The following requirements apply when citing hazards found in health care facilities. Employers must comply with the provisions of these requirements whenever an employee may reasonably be expected to have direct contact with body fluids regardless of whether the patient is known to have been infected with HBV or HIV. This policy is based on the widespread nature of these viruses and the consequent risk to the health care workers described above. It is also based on the need to maintain patient confidentiality and HBV and HIV testing limitations.

o 29 CFR 1910.132--Personal protective equipment.

o 29 CFR 1910.22(a)(1) and (a)(2)--General requirements, Housekeeping.

o 29 CFR 1910.141(a)94)(i) and (ii)--Sanitation, Waste disposal.

- 29 CFR 1910.145(f)--Specifications for accident prevention signs and tags.

- Section 5(a)(1)--General Duty Clause and Executive Order 12196, Section 1-201(a) for Federal facilities.

2. Whenever a hazardous condition exists that is not covered by one of the standards listed above, and the decision is made not to cite the condition under the general duty clause, the appropriate letter shall be sent advising the employer of the hazardous conditions and suggesting corrective action.

3. Such recommendations made to employers shall be noted in the case file for special attention in subsequent inspections.

4. Multi-Employer Work Site. The following citation guidelines apply in multi-employer worksites.

   (a) Health care facilities shall be cited for standards and section 5(a)(1) violations to which their own employees are exposed.

   (b) They shall also be cited for standards (but not 5(a)(1) violations to which employees of other employers on their premises are exposed to the extent that they control the hazard. For example, they shall be cited for not providing personal protective equipment to unprotected employees of other employers on their premises.

   (c) Physicians who are members of professional corporations are generally considered to be employees of that corporation. Therefore, the corporation may be cited for all violations affecting those physicians. Hospitals where they work may also be cited for standards violations (but not 5(a)(1)) to which they are exposed.

   (d) No citation shall be issued where the only persons exposed are physicians who are sole practitioners or partners, and thus not employees under the Occupational Safety and Health Act.

M. Violations. The IC program shall be carefully evaluated to determine compliance with OSHA requirements, as clarified by those CDC guidelines relating to health care worker safety and health. The description of the OSHA requirements in this section is based upon those guidelines. Violations of OSHA requirements will normally be classified as serious.

1. 29 CFR 1910.132(a) and (c). The standard provides in pertinent part:

> "(a) Application. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, ... encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.
>
> (c) Design. All personal protective equipment shall be of safe design and construction for work to be performed."

The following personal protective measures shall have been addressed by the IC program and verified by interviews and walkaround.

a. Gloves. The use of gloves will vary according to the procedure involved. The use of disposable gloves is indicated for procedures where body fluids are handled.

(1) **The use of gloves is particularly important in the following circumstances:**

a **If the health care worker has cuts, abraded skin, chapped hands, dermatitis or the like.**

b During instrumental examination of otopharynx, gastrointestinal tract and genitourinary tract.

c **When examining abraded or non-intact skin or patients with active bleeding.**

d During invasive procedures.

e During all cleaning of body fluids and decontaminating procedures.

(2) Gloves must be of appropriate material, usually intact latex or intact vinyl, of appropriate quality for the procedures performed, and of appropriate size for each health care worker. Where gloves do not meet these requirements 29 CFR 1910.132(c) shall be cited.

(3) Employers shall not wash or disinfect surgical or examination gloves for reuse.

(4) General purpose utility (rubber) gloves worn by maintenance, housekeeping, laundry or other non medical personnel may be decon - taminated and reused.

(5) No gloves shall be used if they are peeling, cracked, or discolored,or if they have punctures, tears, or other evidence of deterioration. Failure to meet these requirements shall be cited under 29 CFR 1910.132(c).

b. Gowns. The use of gowns, aprons, or lab coats is required when splashes to skin or clothing with body fluids are likely to occur. Gowns, including surgical gowns, shall be made of, or lined with, fluid-proof or fluid-resistant material and shall protect all areas of exposed skin.

c. Masks and Eye Protectors. The use of masks and protective eyewear or face shields is required when contamination of mucosal membranes, eyes, mouth or nose) with body fluids such as splashes or aerosolization of such material (e.g., during surgical or dental procedures), is likely to occur. They are not required for routine care.

d. Resuscitation Equipment. Pocket masks, resuscitation bags, or other ventilation devices shall be provided in strategic locations as well as to key personnel (e.g., paramedics) where the need for resuscitation is likely. This will minimize the need for emergency mouth-to-mouth resuscitation.

e. Invasive Procedures. Personal protective equipment as described above shall be used when performing invasive procedures to avoid exposure. When a health care worker's skin or mucous membranes may come in contact with body fluids, gowns, masks, and eye protection shall be worn, as noted above.

f. Phlebotomy. Gloves shall generally be provided to and used by phlebotomists. Employers who do not make them available shall be cited for failure to provide under 29 CFR 1910.132(a). Employers who make gloves available, but discourage or prohibit their use shall be cited for failure to use under 29 CFR 1910.132(a), if in fact the gloves are not being used. However, no citation for failure to use shall be issued where the phlebotomist voluntarily and without the encouragement of the employer does not wear gloves, unless the following circumstances exist:

(1) For performing phlebotomy when the health care worker has cuts, scratches, or other breaks in his/her skin.

(2) In situations where the CSHO and/or health care worker judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative patient.

(3) For performing finger and/or heel sticks in infants and children.

(4) When persons are receiving training in phlebotomy.

g. Dentistry. Gloves are required for contact with oral mucous membranes. Surgical mask and protective eyewear or chin-length plastic face shields are required during dental procedures in which splashing, spattering or aerosolization of blood, saliva or gingival fluids is likely. (Saliva and gingival fluids are included because of the likelihood that they may contain blood in their setting.)

h. Laboratories. The use of gloves are required for processing body fluid specimens. Masks and protective eyewear are required when the worker's mucosal membrane may come in contact with body fluids.

i. Postmortem Procedures. Persons performing or assisting in postmortem procedures are required to wear personal protective equipment as noted above to avoid exposure to body fluids.

2. 29 CFR 1910.22(a)(1) and (a)(2). The standard provides in pertinent part:

"(a) Housekeeping. (1) All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.

(2) The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition...."

The IC program shall have identified housekeeping operations involving substantial risk of direct exposure to body fluids and shall have addressed the proper precautions to be taken while cleaning rooms and blood spills. The application of these procedures shall be verified by employee interviews and the walkaround.

a. Room Cleaning Where Body Fluids are Present. Schedules shall be as frequent as necessary according to the area of the institution, type of surface to be cleaned, and the amount and type of soil present.

b. Disinfectants. Following the initial cleanup, one of the following shall be used for cleaning blood and/or body fluids:

(1) Chemical germicides that are approved for use as hospital disinfectants and are tuberculocidal when used at recommended dilutions.

(2) Products registered by the Environmental Protection Agency as being effective against HIV with an accepted "HIV (AIDS virus)" label.

(3) A solution of 5.25 percent sodium hypochlorite (household bleach) diluted between 1:10 and 1:100 with water.

3. 29 CFR 1910.141(a)(4)(i) and (ii). The standard provides in pertinent part:

"(4) Waste disposal. (i) Any receptacle used for putrescible solid or liquid waste or refuse shall be so constructed that is does not leak and may be thoroughly cleaned and maintained in a sanitary condition. Such a receptacle shall be equipped with a solid, tight-fitting cover, unless it can be maintained in a sanitary condition without a cover. This requirement does not prohibit the use of receptacles which are designed to permit the maintenance of a sanitary condition without regard to the aforementioned requirements.

(ii) All sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner to avoid creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a sanitary condition."

The IC program shall have addressed the handling and disposal of the following potentially contaminated items. The effectiveness of the program in this regard shall be verified through the employee interviews and the walkaround.

a. Sharp instruments and disposable items. Needles shall not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. Resheathing instruments, self-sheathing needles, or forceps shall be used to prevent recapping needles by hand.

(1) After they are used, disposable syringes and needles, scalpel blades, and other sharp items shall be placed in puncture-resistant

containers for disposal.

(2) Such containers shall be easily accessible to personnel needing them and located in all areas where needles are commonly used, including emergency rooms, intensive care units, and surgical suites and shall be so constructed that they will not spill their contents if knocked over and will not themselves allow injuries when handled.

(3) These containers shall also be located on patient floors and any other setting where blood is drawn and needles are used.

b. Lab specimens. All specimens of body fluids shall be put in a well constructed container with a secure lid to prevent leaking during transport and shall be disposed of in an approved manner. Contaminated materials used in laboratory tests should be decontaminated before reprocessing or be placed in bags and disposed of in accordance with institutional policies for disposal of infectious waste.

4. 29 CFR 1910.145(f). The standard provides in pertinent part:

"(f)(3) Use. Tags shall be used as means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent. Tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed. Tags need not be used where signs, guarding or other positive means of protection are being used.

(4) General tag criteria. All required tags shall meet the following criteria:

(i) Tags shall contain a signal word and a major message.

(a) The signal word shall be ... "BIOHAZARD," or the biological hazard symbol.

(b) The major message shall indicate the specific hazardous condition or the instruction to be communicated to the employee.

(ii) The signal word shall be readable at a minimum distance of five feet (1.52m) or such greater distance as warranted by the hazard.

(iii) The tag's major message shall be presented in either pictographs, written text or both.

(iv) The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard.

(v) All employees shall be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary.

(vi) Tags shall be affixed as close as safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintentional removal.

(f)(8) Biological hazard tags. (i) Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, or combination thereof, that contain or are contaminated with hazardous biological agents."

The IC program shall have addressed the labeling procedures to be followed in the facility. That these procedures are followed shall be confirmed by employee interviews and the walkaround.

a. Bags or other receptacles containing articles contaminated with potentially infectious material, including contaminated disposable items, must be tagged or otherwise identified. The tag shall have the signal word "BIOHAZARD" or the biological hazard symbol. The tag shall indicate that the bag could contain infectious wastes and give any additional instructions; e.g., if the outside of the bag is contaminated with body fluids, a second outer bag should be used.

b. If tags are not used, other equally effective means of identification shall be used (e.g., red bagging).

c. Employees shall be informed of the meaning of tags. With respect to tagged material, they shall also be instructed to use double bagging where puncture or outside contamination is likely.

5. Section 5(a)(1). Section 5(a)(1) provides:

> "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;"

a. Section 5(a)(1) citations must meet the requirements outlined in the FOM, Chapter IV, and can be issued only where there is a hazard which cannot be abated by implementing an abatement method required by the standards above. All applicable abatement methods identified as correcting the same hazard shall be issued under a single 5(a)(1) citation.

b. If a citation under 5(a)(1) is justified, the citation, after setting forth the SAVE for section 5(a)(1), shall state:

> Health care workers (specify categories, such as doctors, nurses, etc.) (Specify location) were exposed to the hazard of being infected by HBV and/or HIV through possible direct contact with blood or other body fluids. Feasible and useful abatement methods for reducing this hazard, among others, are: (List abatement methods not required by the standard which employer is not implementing.)

c. Recognition for purposes of citing section 5(a)(1) is recognition of the hazard of being infected with HBV and/or HIV through possible direct contact with body fluids. The health care industry generally accepts and, therefore, recognizes the determination of this hazard by the CDC, which is the acknowledge authority in this area. The employer's IC program can also constitute evidence of recognition.

d. The following are examples of feasible and useful abatement methods. The non-use of any of these methods is likely to result in the continued existence of a serious hazard and may, therefore, allow citation under 5(a)(1). Consequently, all of these methods shall have been implemented. To determine whether they are being implemented, the CSHO shall evaluate the IC program and verify with employee interviews and the walkaround.

(1) Hepatitis B Vaccination. The facility's IC policy regarding hepatitis B vaccinations shall address all circumstances warranting such vaccinations and shall identify employees at substantial risk of directly contacting body fluids. All such employees shall be offered hepatitis B vaccinations free of charge in amounts and at times prescribed by standard medical practices.

(2) Linen. The IC program shall have identified all laundry operations involving substantial risk of direct exposure to body fluids. Linen soiled with body fluids shall be handled as little as possible and with minimum agitation to prevent contamination of the person handling the linen. All soiled linen shall be bagged at the location where it was used; it shall not be sorted or rinsed in patient-care areas. Soiled linen shall be placed and transported in bags that prevent leakage.

(3) Reusable Equipment. Standard sterilization and disinfection procedures currently recommended for hepatitis B in a variety of health care settings are adequate to sterilize or disinfect instruments, devices, or other items contaminated with body fluids. A recommended source of information is the CDC's Guidelines for Hospital Environmental Control: Cleaning, Disinfection and Sterilization of Hospital Equipment.

(4) Bagging of Articles. Objects that are contaminated with potentially infectious materials shall be placed in an impervious bag. If outside contamination of the bag is likely, a second bag shall be added.

(5) Handwashing. After removing gloves, hands or other skin surfaces shall be washed thoroughly and immediately after contact with body fluids.

(6) Follow-up Procedures After Possible Exposure to HIV or HBV:

(a) If a health care worker has a percutaneous (needlestick or cut) or mucous membrane (splash to eye, nasal mucosa, or mouth) exposure to body fluids or has a cutaneous exposure to blood when the worker's skin is chapped, abraded, or otherwise nonintact, the source patient shall be informed of the incident and tested for HIV and HBV infections, after consent is obtained.

(b) If patient consent is refused or if the source patient tests positive, the health care worker shall be evaluated clinically and by HIV antibody testing as soon as possible and advised to report and seek medical evaluation of any acute febrile illness that occurs within 12 weeks after exposure. HIV seronegative workers shall be retested 6 weeks post-exposure and on a periodic basis thereafter (12 weeks and 6 months after exposure).

(c) Follow up procedures shall be taken for health care workers exposed or potentially exposed to HBV. The types of procedures depends on the immunization status of the worker (i.e., whether HBV vaccination has been received and antibody response is adequate) and the HBV serologic status of the source patient. The CDC

Immunization Practices Advisory Committee has published its recommendations regarding HBV postexposure prophylaxis in table format in June 7, 1985, Morbidity and Mortality Weekly Report.

(d) If an employee refuses to submit to the procedures in (b) or (c) above when such procedures are medically indicated, no adverse action can be taken on that ground alone since the procedures are designed for the benefit of the exposed employee.

(7) Training and Education of Health Care Workers. The employer's training program shall be evaluated in accordance with Appendix C.

(a) All high risk health care workers such as those listed in H.1 shall receive education on precautionary measures, epidemiology, modes of transmission and prevention of HIV/HBV. Health care workers shall be counseled regarding possible risks to the fetus from HIV/HBV and other associated infectious agents.

(b) In addition, such high risk workers must receive training regarding the location and proper use of personal protective equipment. They shall be trained concerning proper work practices and, if the facility has implemented them, shall understand the concept of "universal precautions" as it applies to their work practices. They shall be trained about the meaning of color coding or other methods (except tags) used to designate contaminated articles or infectious waste. Where tags are used, training about tags and precautions to be used in handling contaminated articles or infectious waste is governed by 29 CFR 1910.145(f). (See section M.4.) Workers shall receive training about procedures to be used if they are exposed to needlestick or to body fluids.

N. Other Standards.

1. The hazard communication standard, 29 CFR 1910.1200 only applies to hazardous chemicals or physical hazards in the workplace and thus does not apply to biological hazards such as blood borne diseases.

2. A record concerning employee exposure to HIV and/or HBV is an employee exposure record within the meaning of 29 CFR 1910.20. A record about HIV and/or HBV status is also an employee medical record within the meaning of 29 CFR 1910.20. However, under 29 CFR 1913.10, the CSHO may obtain these records for purposes of determining compliance with 29 CFR 1910.20.

3. Generally, 29 CFR 1910.134 does not apply since there are no respirators approved for biohazards. However, placing respirators in areas where they could be contaminated by body fluids constitutes a violation of 29 CFR 1910.134(b)(6).

O. Expert Witnesses. The Directorate of Technical Support will assist the Regional Offices and the States in location expert witnesses.

1. In the event that a 5(a)(1) citation is contested, proper expert witness support shall be immediately obtained. Issues which the expert must be prepared to address include:

   a. The risk to workers associated with the exposure circumstances.

   b. Existence, feasibility and utility of abatement measures.

   c. Recognition of the hazard in the industry, by the employer.

2. Expert witnesses may also be necessary in other cases, particularly those involving 29 CFR 1910.132(a).

P. Recording in the IMIS. Current instructions for completing the appropriate inspection classification boxes (Items 24 and 25) on the OSHA-1, Inspection Report, as found in the IMIS Manual shall be applied when recording inspections conducted at health care facilities or at facilities with health care units:

1. Inspections conducted in such facilities shall be coded as "Comprehensive" or "Partial" in Item 35 of the OSHA-1, as appropriate. Such inspections shall not be coded as records only inspections.
2. The OSHA-1 for health care facility or unit inspections scheduled as a result of a complaint shall be marked as "Safety" or "Health" as appropriate (Item 21), "Complaint" (Item 24.), and "National Emphasis Program" (Item 25d.). Record "BLOOD" in the space in Item 25d.

3. The OSHA-1 for health care facility or unit inspections scheduled from the Safety or the Health Establishment List or from the Health Care Establishment List shall be marked as "Safety" or "Health," as appropriate (Item 21.), "Planned" (Item 24h), "Safety" or "Health Planning Guide" as appropriate (Item 25b.), "National Emphasis Program" (Item 25d.). Record "BLOOD" in the space in Item 25d.

4. The OSHA-1 for any unprogrammed safety or health inspection conducted in a health care facility or unit shall be marked "Unprogrammed" (Item 24a. through g., as appropriate), "National Emphasis Program" (Item 25d.) and "BLOOD" recorded in space in Item 25d.

Q. Referrals.

1. When a complaint or inquiry is received from a source in a State plan State regarding occupational exposure to blood-borne disease, the Regional Administrator shall refer it to the State plan designee for action.

2. When complaint or inquiry regarding occupational exposure to blood-borne disease in a State or local government health care facility is received in a State without an OSHA approved State plan, the Regional Administrator shall refer it to the appropriate State public health agency or local health agency with jurisdiction over the health care facilities.

R. Personal Protective Equipment for CSHOs.

1. CSHOs shall not participate in activities that will require them to come into contact with body fluids, needles or other sharp instruments contaminated with blood. To evaluate such activities, CSHOs normally shall establish the existence of hazards and adequacy of work practices through employee interviews and shall observe them at a safe distance.

2. CSHOs shall take necessary precautions to avoid direct contact with body fluids. It will not normally be necessary for CSHOs actually to enter hazardous areas and, therefore, to use personal protective equipment. On the rare occasions when entry into potentially hazardous areas is judged necessary, the CSHO shall be properly equipped as required by the health care facility as well as by his/her own professional judgement, after consultation with the supervisor (FOM, Chapter III).

S. Copies of Citations. Copies of all citations issued pursuant to this program shall be sent expeditiously to the Office of Health Compliance Assistance through the Director of Field Programs. Such information is necessary for program monitoring and evaluation.

T. Informal Settlement Agreements and Notices of Contest. Copies of all settlement agreements and notices of contest shall be sent expeditiously to the Office of Health Compliance Assistance through the Director of Field Programs.

G.F. Scannell
Assistant Secretary

DISTRIBUTION: National, Regional and Area Offices
Compliance Officers
State Designees
NIOSH Regional Program Directors
7(c)(1) Project Managers

APPENDIX

Evaluation of Employer Training and Education Programs

Training programs must be evaluated through program review and discussion with management and employees.

1. Training programs shall normally include epidemiology, clinical presentation, modes of transmission and prevention of HBV and HIV as well protective measures to be taken to prevent exposure.

2. The following questions provided a general outline of training topics to be reviewed when conducting an inspection at a health care facility. Responses shall be documented in the case file. Areas of interest include, but are not limited to, direct patient care areas, emergency room, operating rooms, clinical laboratories, x-ray, housekeeping and laundry.

   a. Has a training and information program been established for employees actually or potentially exposed to blood and/or body fluids?

   b. How often is training provided and does it cover:

      (1) Universal precautions?

      (2) Personal protective equipment?

      (3) Workplace practices include blood drawing, room cleaning, laundry handling, cleanup of blood spills?

      (4) Needlestick exposure/management?

      (5) Hepatitis B Vaccination?

   c. Does new employee orientation cover infection disease control?

   d. Does the employer evaluate the effectiveness of the training program through monitoring of employee compliance with the guidelines?

   e. Have employees been informed of the precautionary measures outlined in the CDC guidelines?

f. Is personal protective equipment provided to employees? In all appropriate locations? (Specifically, ask about gloves, mask, eye protection, gowns (as appropriate).)

g. Is the necessary equipment (i.e., mouthpieces, resuscitation bags, or other ventilation devices) provided for administering mouth-to-mouth resuscitation on potentially infected patients?

h. Does training identify the specific procedures implemented by the employer to provide protection, such as proper use of personal protective equipment?

i. Are facilities available to comply with workplace practices, such as handwashing sinks, needle containers, detergents and disinfectants to clean up spills?

j. Are employees aware of specific workplace practices to follow when appropriate? Specifically ask about:

- Handwashing.
- Handling sharp instruments.
- Routine examinations.
- Blood spills.
- Handling spills.
- Disposal of contaminated materials.
- Reusable equipment.

k. Are workers aware of procedures to follow after a needlestick or blood exposure? Have they had such experiences, and are the guidelines followed?

l. Are employees aware of the Hepatitis B vaccination program? Do they take advantage of it?

Public Health Service Statement on Management of Occupational Exposure to Human Immunodeficiency Virus, Including Considerations Regarding Zidovudine Postexposure Use

INTRODUCTION

CDC has issued guidelines to reduce the risk of human immunodeficiency virus (HIV) infection among health-care workers, emergency-response and public-safety workers, and others who might be exposed to HIV while performing job duties (*1-4*). The safety practices outlined in these guidelines remain the primary means of preventing occupational acquisition of HIV infection (*5*). Additionally, some physicians and some institutions have offered the option of using zidovudine (azidothymidine, AZT, ZDV, Retrovir) after occupational exposure to HIV (*6*). Data collected in an ongoing CDC surveillance project of health-care workers who have been occupationally exposed to blood from HIV-infected patients (*7*) indicate that during the period April-December 1989, 13 (8.6%) of 151 newly enrolled participants began a postexposure regimen of zidovudine.

This report reviews Public Health Service (PHS) recommendations for postexposure management of workers who have occupational exposures that may place them at risk of acquiring HIV infection, provides background information on zidovudine and experience with zidovudine postexposure prophylaxis, and presents considerations relevant to a decision to offer postexposure prophylaxis.

Definition of Occupational Exposure

For purposes of this document, an occupational exposure (i.e., exposure that occurs during the performance of job duties) that may place a worker at risk of HIV infection is defined as a percutaneous injury (e.g., a needlestick or cut with a sharp object), contact of mucous membranes, or contact of skin (especially when the exposed skin is chapped, abraded, or afflicted with dermatitis or the contact is prolonged or involving an extensive area) with blood, tissues, or other body fluids to which universal precautions apply, including: a) semen, vaginal secretions, or other body fluids contaminated with visible blood, because these substances have been implicated in the transmission of HIV infection (*2*); b) cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid, because the risk of transmission of HIV from these fluids has not yet been determined (*2*); and c) laboratory specimens that contain HIV (e.g., suspensions of concentrated virus).

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PHS RECOMMENDATIONS FOR MANAGEMENT OF PERSONS AFTER OCCUPATIONAL EXPOSURES THAT MAY PLACE THEM AT RISK OF ACQUIRING HIV INFECTION

Employers should make available to workers a system for promptly initiating evaluation, counseling, and follow-up after a reported occupational exposure that may place the worker at risk of acquiring HIV infection. Workers should be educated to report exposures immediately after they occur, because certain interventions that may be appropriate, e.g., prophylaxis against hepatitis B, must be initiated promptly to be effective (*3,8,9*). Workers who might reasonably be considered at risk of occupational exposure to HIV should be familiarized with the principles of postexposure management as part of job orientation and ongoing job training.

If an exposure occurs, the circumstances should be recorded in the worker's confidential medical record. Relevant information includes the following:

- date and time of exposure
- job duty being performed by worker at time of exposure
- details of exposure, including amount of fluid or material, type of fluid or material, and severity of exposure (e.g., for a percutaneous exposure, depth of injury and whether fluid was injected; for a skin or mucous-membrane exposure, the extent and duration of contact and the condition of the skin, e.g., chapped, abraded, intact)
- description of source of exposure—including, if known, whether the source material contained HIV or HBV
- details about counseling, postexposure management, and follow-up

After an occupational exposure, both the exposed worker and the source individual should be evaluated to determine the possible need for the exposed worker to receive prophylaxis against hepatitis B according to previously published CDC recommendations (*3,8,9*). Because of the potentially severe consequences of hepatitis B virus infection, hepatitis B vaccine, which is both safe and highly effective (*10*), should be offered to any susceptible health-care worker who has an occupational exposure and has not previously been vaccinated with hepatitis B vaccine. Hepatitis B immune globulin may also be indicated, particularily if the source patient or material is found to be positive for hepatitis B surface antigen (HBsAg) (*3,8,9*).

In addition, the source individual should be informed of the incident and, if consent is obtained, tested for serologic evidence of HIV infection. If consent cannot be obtained (e.g., patient is unconscious), policies should be developed for testing source individuals in compliance with applicable state and local laws. **Confidentiality of the source individual should be maintained at all times.**

If the source individual has AIDS, is known to be HIV-seropositive, or refuses testing, the worker should be evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure (baseline) and if seronegative, should be retested periodically for a minimum of 6 months after exposure (e.g., 6 weeks, 12 weeks, and 6 months after exposure) to determine whether HIV infection has occurred. The worker should be advised to report and seek medical evaluation for any acute illness that occurs during the follow-up period. Such illness, particularly if characterized by fever, rash, myalgia, fatigue, malaise, or lymphadenopathy, may be indicative of acute HIV infection, drug reaction, or another medical condition. During the follow-up period, especially the first 6-12 weeks after the exposure when most infected persons are expected to seroconvert, exposed workers should follow PHS recommendations for preventing transmission of HIV. These recommendations include refraining from blood, semen, or organ donation and abstaining from or using measures to prevent HIV transmission during sexual intercourse (*11-14*). In addition, in countries such as the United States where safe and effective alternatives to breast-feeding are available, exposed women should not breast-feed infants during the follow-up period in order to prevent the infant's possible exposure to HIV in breast milk. **During all phases of follow-up, confidentiality of the worker should be protected.**

If the source individual is HIV-seronegative and has no clinical manifestations of AIDS or HIV infection, no further HIV follow-up of the exposed worker is necessary unless epidemiologic evidence suggests that the source individual may have recently been exposed to HIV or if testing is desired by the worker or recommended by the health-care provider. In these instances, the guidelines may be followed as described above.

If the source individual cannot be identified, decisions regarding appropriate follow-up should be individualized, based on factors such as whether potential sources are likely to include a person at increased risk of HIV infection.

The employer should make serologic testing available to all workers who are concerned about possible infection with HIV through an occupational exposure. Appropriate psychological counseling may be indicated as well.

ZIDOVUDINE

Background

Zidovudine is a thymidine analogue that has been shown in vitro to inhibit replication of some retroviruses, including HIV, by interfering with the action of viral ribonucleic acid (RNA)-dependent deoxyribonucleic acid (DNA) polymerase (reverse transcriptase) and possibly also by other mechanisms (*15*).

In a double-blind, placebo-controlled trial, zidovudine was shown to increase the length and quality of life of patients with advanced HIV infection and AIDS (*16*). Largely on the basis of the results of this trial, zidovudine was approved for marketing by the Food and Drug Administration (FDA) and is indicated for treatment of adults with symptomatic HIV infection, including AIDS, who have a history of cytologically confirmed *Pneumocystis carinii* pneumonia or an absolute CD_4 lymphocyte count of $<200/mm^3$. The dose of zidovudine originally approved for oral use by patients who have AIDS and advanced symptomatic HIV infection was 200 mg every 4 hours. On January 16, 1990, FDA approved a change in the labeling that now recommends administering the drug at 600 mg/day (100 mg every 4 hours) after a patient has received 1 month of zidovudine therapy at a dose of 1,200 mg/day (200 mg every 4 hours).

Later studies (National Institute of Allergy and Infectious Diseases [NIAID] AIDS Clinical Trial Group Protocols #016 and #019) have indicated that zidovudine can delay disease progression in patients with less advanced HIV infection (patients with an absolute CD_4 count of $<500/mm^3$, whether symptomatic or asymptomatic) (NIAID Administrative Report: "AIDS Clinical Trials Alert," August 29, 1989).

Toxicity

Among patients who have AIDS or symptomatic HIV infection and who are treated with zidovudine, the most frequently reported adverse events are granulocytopenia and anemia. Other adverse events that affect ≥5% of zidovudine recipients include one or more of the following: headache, nausea, insomnia, myalgia, diaphoresis, fever, malaise, anorexia, diarrhea, dyspepsia, vomiting, dyspnea, rash, and taste abnormalities (*17*). Occurrences less commonly reported in the published literature include polymyositis, peripheral neuropathy, and seizures.

Among 3,200 patients with asymptomatic HIV infection treated in NIAID protocol #019 with placebo or with zidovudine doses of either 1,500 mg or 500 mg daily (either 300 mg or 100 mg given every 4 hours, five times daily), investigators have reported the following toxicity after a median of 44 weeks of therapy: in the 1,500-mg/day group, approximately 12% of the subjects developed moderate to severe hematologic toxicity, defined as hemoglobin of <8 g/dl, granulocytes of $<750/mm^3$, or platelets of $<50,000/mm^3$. In the 500-mg/day group, this toxicity occurred at a rate of about 3%, compared with approximately 2% in the placebo group. Nausea was rarely reported in the placebo group; however, 3%-5% of zidovudine recipients, irrespective of dose group, experienced moderate to severe nausea. No statistically significant difference was observed between zidovudine dose and placebo for any other moderate to severe clinical adverse experiences (NIAID Administrative Report: "AIDS Clinical Trials Alert," August 29, 1989).

Preliminary data from a study sponsored by the Burroughs-Wellcome Company of health-care workers who received 200 mg of zidovudine or placebo every 4 hours for 6 weeks after occupational exposure to HIV indicate that adverse effects most frequently consisted of nausea and vomiting. In no instance did the prescribing physician discontinue a participant's study drug or placebo because of hematologic or other serious toxicity; however, during the therapy period, 14 (28.6%) of 49 participants who received zidovudine had a hemoglobin concentration between 9.5 and 12 g/dl, compared with one (2.9%) of 35 participants in the placebo group. Seven (14.3%) of the 49 participants who received zidovudine, compared with one (2.9%) of the 35 placebo recipients, elected to discontinue therapy because of subjective, reversible symptoms, including nausea, vomiting, fatigue, headache, myalgia, or cough.

Several anecdotal reports of short-term toxicity among health-care workers receiving zidovudine have been received by PHS. Symptoms include fever, myalgia, fatigue, nausea, and vomiting. Single reports have been received of severe anemia, reversible peripheral neuropathy, and transient clinical hepatitis.

Although the risk of acute zidovudine toxicity for exposed health-care workers cannot be determined from this limited information, data from the NIAID protocol #019 trial and from the Burroughs-Wellcome study of exposed health-care workers suggest that the risk of acute toxicity associated with short-term use of the drug is lower than the risk observed during long-term therapy of symptomatic HIV-infected individuals.

For healthy persons not infected with HIV, the risk of long-term toxicity, including teratogenic and carcinogenic effects, related to a course of zidovudine is not known. It is not known whether zidovudine can cause fetal harm when administered to a pregnant woman or whether it can affect reproductive capacity (*17*). To assess the safety of zidovudine use during pregnancy, the Burroughs-Wellcome Company has developed a registry to evaluate pregnancy outcomes of women who took zidovudine during pregnancy. Physicians are encouraged to register such persons by telephoning the pregnancy registry, (919) 248-8465 (collect) or 1-800-722-9292. It is also not known whether zidovudine is excreted in human milk. However, because of the potential for adverse side effects among breast-fed infants, as well as the potential for transmission of HIV if the mother is infected, mothers should be instructed to discontinue breast-feeding whether or not they are receiving zidovudine (*17*).

In other studies conducted by the Burroughs-Wellcome Company (Appendix I), vaginal tumors, including carcinomas, were observed in mice and rats receiving zidovudine at doses that the FDA has determined resulted in plasma levels in mice approximately equal to human plasma levels at the dose originally approved for treatment of persons with symptomatic HIV infection (200 mg every 4 hours). In rats, the plasma levels were determined by the FDA to be about 10 times higher than human plasma levels achieved with the originally approved dose. The results of these rodent carcinogenicity studies are of uncertain predictive value for humans.

Studies of Zidovudine Postexposure Prophylaxis Involving Animals

Data involving studies of laboratory animals (Appendix II) are limited and must be interpreted with caution, as they have most often been derived by using nonhuman retroviruses having pathogenic mechanisms different from the pathogenesis of HIV infection in humans. In one study using HIV in a mouse model, zidovudine prophylaxis was begun 24 hours before intrathymic injection of a large inoculum of HIV and continued for 2 weeks thereafter. HIV infection was not prevented in any of the animals studied, although the course of infection was modified. It is not known whether prophylaxis would be effective in conditions that more closely resemble occupational exposures, i.e., zidovudine begun after exposure, with the exposure consisting of a percutaneous injection of a lower inoculum of HIV. **Data from animal studies are inadequate to support or reject the hypothesis that zidovudine may be effective prophylaxis for persons who have been occupationally exposed to HIV.**

Studies of Zidovudine Postexposure Prophylaxis Involving Humans

The efficacy of zidovudine prophylaxis for humans after exposure to HIV cannot be assessed because of insufficient data. The Burroughs-Wellcome Company recently sponsored a double-blind, placebo-controlled study to evaluate 6 weeks of zidovudine prophylaxis (200 mg orally every 4 hours) involving health-care workers who had experienced occupational percutaneous, mucous-membrane, or nonintact-skin exposures to HIV-infected blood. Of 84 workers who initially enrolled in the study (49 of whom were given zidovudine), none developed HIV infection after at least 6 months of follow-up. The risk of transmission of HIV per episode of percutaneous exposure to HIV-infected blood is, on the average, approximately 0.4% (*7*). Thus, the absence of seroconversions in this small group of participants is not unexpected, regardless of whether they took zidovudine. Enrollment in this study was terminated in June 1989.

NIAID has enrolled three persons in an ongoing open trial of zidovudine prophylaxis after a "massive exposure" to HIV. The first person received a blood transfusion from an HIV-infected donor, was started on zidovudine 7 days after exposure, and was culture-positive for HIV 4 months after completing 6 weeks of chemotherapy. The second person was exposed to a high concentration of HIV on abraded skin in a research laboratory, was started on zidovudine within 24 hours postexposure, and remains HIV-seronegative after 11 months. The risk of seroconversion after this type of laboratory exposure is unknown. The third person was exposed to a high concentration of HIV on broken skin in a research laboratory, was started on zidovudine within 24 hours after the exposure, and is HIV-seronegative 3 months after the exposure. The risk of seroconversion after this type of laboratory exposure also is unknown. All individuals were able to complete a 6-week course of therapy (200 mg orally every 4 hours) without clinically significant adverse effects. Information regarding enrollment in this study can be obtained by calling the NIAID study coordinator at (800) 537-9978.

Prophylaxis Schedules Currently Used After Occupational Exposure

Various regimens have been prescribed for zidovudine prophylaxis after occupational exposure. No data are available to enable investigators to determine the efficacy or compare the toxicity of these or other regimens. At the National Institutes of Health Clinical Center, workers who elect to receive zidovudine are treated with 200 mg every 4 hours (six times daily) for 6 weeks (*6*). At San Francisco General Hospital, workers who elect to receive zidovudine are treated with 200 mg every 4 hours (five times daily; no dose is given at 4:00 a.m.) for 4 weeks (*6*). Some clinicians have used an initial dose of 400 mg, and others have prescribed treatment courses ranging from 4 days to 4 months. At several institutions, attempts are made to begin prophylaxis within 1 hour after exposure for workers who elect to receive the drug.

DISCUSSION

Data from animal and human studies are inadequate to establish the efficacy or safety of zidovudine for prophylaxis after occupational exposure to HIV. However, some physicians believe that zidovudine should be offered as prophylaxis to persons after certain occupational exposures for the following reasons: the severity of the illness that may result from HIV infection, the documented antiviral effect of zidovudine in the treatment of persons with established HIV infection, the apparent reversibility of acute toxicity in persons taking zidovudine for a brief period, and the suggestion that in some animal studies, zidovudine postexposure may modify the course of some retroviral infections. Other physicians believe that zidovudine should not be recommended for uninfected persons after occupational exposures because of the lack of data demonstrating efficacy in postexposure prophylaxis, the limited data on toxicity in uninfected individuals, and the fact that zidovudine has been shown to be carcinogenic in rats and mice.

At this time, prophylaxis with zidovudine cannot be considered a necessary component of postexposure management. However, workers who might be at risk of occupational exposure to HIV should be informed, as part of job orientation and ongoing job training, of the considerations pertaining to the use of zidovudine for postexposure prophylaxis. The PHS recommends that if a physician decides to offer zidovudine to a worker after an exposure incident, that decision by the physician and the decision by the worker to take zidovudine should take into account the following considerations.

Considerations Regarding Use of Zidovudine After an Occupational Exposure

Risk of HIV infection after exposure

Evaluation of the risk of HIV infection after exposure should take into account existing knowledge from prospective studies of exposed workers, which demonstrate that on the average the risk of transmission of HIV per episode of percutaneous exposure (e.g., a needlestick or cut with a sharp object) to HIV-infected blood is approximately 0.4%. These studies also suggest that the risk of HIV transmission per episode of mucous-membrane or skin exposure to HIV-infected blood is less than that after a percutaneous exposure (*7,18-21*). The risk of HIV transmission after occupational exposure to body fluids other than blood, for which universal precautions are recommended, is unknown. The risk of HIV infection for persons who take zidovudine postexposure prophylaxis cannot be determined at present because of the small number of persons studied.

Risk evaluation should also include an assessment of factors that may increase or decrease the probability of HIV transmission after an individual occupational exposure. These factors are not well understood, but include the likelihood that the source fluid contained HIV and probably also the concentration of HIV in the source fluid, the route of exposure, and the volume of fluid involved. For example, a percutaneous exposure to concentrated HIV in a research laboratory is probably more likely to result in transmission of infection than a similar exposure to HIV-infected blood in a clinical setting. A percutaneous exposure to HIV-infected blood is probably more likely to result in transmission than a mucous-membrane exposure to the same blood. Finally, an exposure to a larger quantity of HIV-infected blood, such as injection of several milliliters, is probably more likely to result in HIV transmission than an exposure to a smaller quantity of the same blood, such as in a needlestick exposure.

Interval between exposure and initiation of prophylaxis, if given

Data from animal studies suggest that prophylaxis against certain retroviral infections other than HIV may be more effective when started within hours after exposure (*22,23*). Because in vitro studies indicate that human HIV infection may be established in human lymphocytes within hours after exposure (*24*), and epidemiologic studies of exposed health-care workers indicate that acute retroviral illness may occur as early as 2 weeks after exposure (*7*), it appears that if the decision is made to use postexposure prophylaxis, prophylaxis should be initiated promptly.

Counseling and informed consent

If zidovudine prophylaxis is being considered, the worker should be counseled regarding a) the theoretical rationale for postexposure prophylaxis, b) the risk of occupationally acquired HIV infection due to the exposure, c) the limitations of current knowledge of the efficacy of zidovudine when used as postexposure prophylaxis, d) current knowledge of the toxicity of zidovudine (including the data from animal and human studies) and the limitations of this knowledge in predicting toxicity in uninfected individuals who take the drug after occupational exposures, and e) the need for postexposure follow-up (including HIV serologic testing), regardless of whether zidovudine is taken. **The worker should also be informed that there are diverse opinions among physicians regarding the use of zidovudine for postexposure**

prophylaxis, and the PHS cannot make a recommendation for or against the use of zidovudine for this purpose because of the limitations of current knowledge.

The duration of follow-up needed to detect evidence of HIV transmission or delayed toxicity among workers who take zidovudine is presently unknown. Workers taking zidovudine postexposure may require follow-up to detect HIV seroconversion for a longer period than that recommended for workers who do not take zidovudine. Regardless of the length of follow-up, mechanisms should be developed to permit workers taking zidovudine to be contacted if future information indicates the need for additional evaluation.

If a physician offers zidovudine as prophylaxis after an occupational exposure and the exposed worker elects to take the drug, the physician or other appropriate health-care provider should obtain written informed consent from the worker for this use of this drug. The consent document should reflect the information presented in the counseling session, as outlined above, emphasizing the need for follow-up medical evaluations and for precautions to prevent the transmission of HIV infection during the follow-up period, including refraining from blood, semen, or organ donation, refraining from breast-feeding, and either abstaining from sexual intercourse or using latex condoms during sexual intercourse, as discussed below.

Considerations regarding sexual intercourse for exposed workers taking zidovudine include 1) the possible risk of teratogenesis associated with zidovudine use, and 2) the risk of transmission of HIV to a sexual partner. The risk of teratogenesis among offspring of either men or women taking zidovudine is unknown. Therefore, men and women of reproductive age who are receiving zidovudine should abstain from, or use effective contraception during, sexual intercourse throughout the time zidovudine is being taken. In addition, to prevent HIV transmission to sexual partners, all exposed workers, including pregnant women, should abstain from, or use latex condoms during, sexual intercourse throughout the follow-up period.

Research Needs

Further data are needed to determine risk factors for occupational exposure to HIV, to evaluate measures for preventing these exposures, and to identify risk factors for HIV transmission after occupational exposure. Appropriate animal models of HIV infection are needed, and animal studies should be conducted under experimental conditions that mimic the circumstances of occupational exposure affecting humans. Studies involving humans should be conducted to determine whether postexposure prophylaxis with zidovudine or other agents is effective, and, if effective, should define the optimal time that postexposure prophylaxis should be initiated and the optimal duration of prophylaxis. Studies should also assess the toxicity of candidate prophylactic agents, establish the optimal dosage for healthy individuals and for persons with preexisting hepatic or renal dysfunction, and define the duration of follow-up needed to detect evidence of HIV infection in persons receiving prophylaxis. Strains of HIV isolated from treated workers should be monitored to detect development of drug resistance.

Expanded Surveillance of Workers with Occupational Exposures to HIV

CDC has expanded its ongoing surveillance of workers with occupational exposures to HIV (7) to collect additional information on postexposure chemoprophylaxis. No names or other personal identifiers of workers are collected.

Information is collected on the following:

- circumstances associated with exposures
- extent to which zidovudine and other antiretroviral agents are prescribed for postexposure chemoprophylaxis, including dosage and timing
- incidence of associated toxicity
- rate of HIV seroconversion among workers who do and do not receive postexposure chemoprophylaxis

All physicians who provide care to a worker within 1 month after an occupational exposure to HIV, regardless of whether an antiretroviral agent is prescribed, are encouraged to enroll the worker in the CDC surveillance system. Enrollment and follow-up requirements have been simplified; in particular, it is no longer necessary to send blood specimens to CDC for HIV serologic testing unless the enzyme immunoassay (EIA) performed by a licensed local laboratory is reactive or equivocal. CDC will continue, however, to offer EIA testing at no charge on specimens from surveillance participants on request. Additional information and enrollment materials can be obtained from the Hospital Infections Program, Center for Infectious Diseases, Centers for Disease Control, Mail Stop C-10, Atlanta, GA 30333; telephone (404) 639-1644.

CONTACTS FOR PHYSICIANS AND FOR INFECTION CONTROL AND OCCUPATIONAL HEALTH PROFESSIONALS

- To enroll persons who have had a "massive exposure" to HIV in NIAID study of zidovudine prophylaxis, telephone (800) 537-9978.
- To report adverse effects associated with zidovudine to FDA, use "Adverse Reaction Report" forms (FDA #1639), obtainable from:

  Food and Drug Administration
  Office of Epidemiology and Biostatistics
  HFD-730
  Rockville, MD 20857
  (301) 443-4580.
- To enroll an exposed worker in the CDC prospective surveillance system, telephone (404) 639-1644.
- To enroll pregnant women who receive zidovudine during pregnancy, contact:

  Zidovudine in Pregnancy Registry
  Epidemiology, Information, and Surveillance Division
  Burroughs-Wellcome Company
  3030 Cornwallis Road
  Research Triangle Park, NC 27709
  (919) 248-8465 (collect) or (800) 722-9292.

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APPENDIX I

Results of Studies Conducted by the Burroughs-Wellcome Company of Zidovudine Carcinogenicity Involving Animals

In lifetime carcinogenicity bioassays, mice and rats were given various doses of zidovudine, up to the maximum tolerated doses, for most of their lifespans. Dose reductions were necessary for both species during the study because of the onset and persistence of drug-related anemia. Mice were treated initially with 30, 60, or 120 mg/kg/day; after 90 days, these doses were reduced to 20, 30, or 40 mg/kg/day, respectively. Rats were treated initially with 80, 220, or 600 mg/kg/day; after 90 days, the 600-mg/kg/day group was reduced to 450 mg/kg/day; and after 280 days, this group was further reduced to 300 mg/kg/day. Although anemia persisted at the reduced doses, drug treatment did not adversely affect survival in either species.

Among mice dosed for approximately 22 months, seven vaginal neoplasms occurred in 60 female animals at the highest dose. The earliest a tumor was discovered was after 19 months of continuous dosing; most tumors were discovered after 21 months of treatment. The tumors consisted of five nonmetastasizing squamous cell carcinomas and two benign tumors (one squamous cell papilloma and one squamous cell polyp). One benign vaginal tumor (squamous cell papilloma) was discovered in the middle-dose group after 22 months of treatment. In all instances, these lesions were discovered during histologic examination of tissues from animals that either died or were sacrificed, late in life from nontreatment-related causes, or sacrificed upon completion of lifetime dosing.

Among rats dosed for approximately 22 months, two nonmetastasizing vaginal squamous cell carcinomas were diagnosed on the basis of histologic examination of tissues from animals receiving the highest dose. These carcinomas were discovered after 20-22 months of dosing. No vaginal tumors occurred among rats given the middle or low dose.

No other drug-related tumors were observed among animals of either sex or of either species (Burroughs-Wellcome Company [letter to physicians], Dec. 5, 1989).

APPENDIX II

Studies of Zidovudine Prophylaxis Involving Animals

Studies of retrovirus infections other than HIV in mice and cats suggest that zidovudine may alter the course of some retroviral infections when given before or shortly after exposure to the virus. In one study, mice were injected with a large challenge inoculum (1×10^4 plaque-forming units) of Rauscher murine leukemia virus (RMLV) and were given a 20-day course of zidovudine, at various doses, beginning 4 hours after inoculation. By day 69, all untreated mice had died of RMLV infection, whereas those treated with high doses of zidovudine had no clinical signs of infection and were not viremic. Both the protective effect of zidovudine and the incidence of zidovudine-induced bone marrow depression were greater with increasing doses (*1*).

In another study, cats were injected with a large challenge dose (2×10^3 focus-inducing units) of Rickard feline leukemia virus (RFLV) and were given zidovudine at various doses and various intervals after inoculation. Of eight cats injected with RFLV and treated with a 6-week course of zidovudine beginning 1 hour after inoculation, none developed clinical evidence of RFLV disease, none had virus isolated from serum, and one had evidence of infection manifested by the development of neutralizing antibody within 3 months after treatment with zidovudine was stopped. In contrast, 11 of 12 untreated cats either became viremic or died of infection in the same period. When zidovudine prophylaxis was initiated 3 or 7 days after inoculation, a substantial proportion of animals in different dosage groups became viremic, developed neutralizing antibody, or both. All animals treated beginning 28 days after inoculation were viremic when zidovudine treatment was initiated (*2*).

Limited studies involving primates have not shown success in postexposure prophylaxis against simian immunodeficiency virus (SIV). In one study, macaque monkeys were inoculated with a small dose (10 $TCID_{50}$) of a rapidly lethal variant of SIV (SMM/PBj-14) and later treated with zidovudine for 14 days. Of three animals whose treatment was begun 1 hour after inoculation, two developed infection, and one died. Of three animals treated within 24 hours, all developed infection, and two died. Of three animals treated within 72 hours, all developed infection, and two died. Of three control animals that were inoculated with the virus but not given zidovudine treatment, all developed infection, and two died (*3*). In another study of macaque monkeys, a 1-week course of zidovudine begun 8 hours before the animals were inoculated with SIV did not prevent viremia, but delayed its onset until 1-2 days after the zidovudine treatment was completed (*4*).

Finally, studies have been conducted by using the SCID-hu mouse model, an immunodeficient mouse with an immune system that has been reconstituted with transplanted human hematolymphoid organs susceptible to infection with HIV (*5*). Seventeen mice were treated with zidovudine for 24 hours before and for 2 weeks after intrathymic injection of a standard challenge dose of HIV (400-4,000 IU), the smallest dose causing infection in all animals. At 2 weeks after injection, none of the mice tested positive for HIV DNA by the polymerase chain reaction (PCR), although the presence of HIV RNA in some cells was detected by in situ hybridization. Four weeks after zidovudine was stopped, HIV DNA was detected by PCR in all 17 mice. In comparison, all of 40 mice not receiving zidovudine tested positive for HIV DNA by PCR 2 weeks after injection (*6*).

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OCCUPATIONAL, SAFETY AND HEALTH ISSUES

Additional Resources

OSHA PUBLICATIONS

"Worker Exposure to AIDS & Hepatitis B," OSHA 3102, U.S. Department of Labor, Occupational Safety and Health Administration (1990) (10 pages).

"OSHA Inspections Handbook," OSHA 2098, U.S. Department of Labor, Occupational Safety and Health Administration (1989) (15 pages).

"Employer Rights & Responsibilities Following an OSHA Inspection," OSHA 3000, U.S. Department of Labor, Occupational Safety and Health Administration (1987) (18 pages).

> A single free copy of these OSHA publications may be obtained from the OSHA Publications Office, 200 Constitution Avenue, NW, Room N3101, Washington, D.C. 20210; 202/523-9667. Please send a self-addressed envelope with your request.

CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

"Guidelines for Protecting the Safety and Health of Health Care Workers," NIOSH 88-119, U.S. Department of Health and Human Services, Public Health Service, CDC (1988).

> This is a comprehensive publication which addresses all major health and safety hazards that workers encounter in hospitals and other health-care facilities. Single copies are available free-of-charge from the Publications Dissemination Section, DSDTT, National Institute for Occupational Safety and Health, CDC, 4676 Columbia Parkway, Cincinnati, Ohio 45226; 513/533-8287.

** "Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the Workplace," MMWR November 15, 1985.

"Update: Human Immunodeficiency Virus Infections in Health-Care Workers Exposed to Blood of Infected Patients," MMWR May 22, 1987.

** "Recommendations for Prevention of HIV Transmission in Health-Care Settings," MMWR August 21, 1987.

** "Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers," MMWR April 22, 1988.

** "Update: University Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B. Virus, and Other Bloodborne Pathogens in Health-Care Settings," MMWR June 24, 1988.

** "Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B. Virus to Health-Care and Public-Safety Workers," MMWR June 23, 1989.

"Protection Against Viral Hepatitis," MMWR February 9, 1990.

MMWR is an abbreviation for Morbidity and Mortality Weekly Report, a publication of the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control. Copies of MMWR should be available from any medical library. Copies of most MMWR articles dealing with AIDS are also available from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, Maryland 20850; 800/458-5231.

** The full text of this CDC document is included elsewhere in this Compendium.

MEDICAL JOURNAL ARTICLES

"Low Occupational Risk of Human Immunodeficiency Virus Infection Among Dental Professionals," 318 The New England Journal of Medicine 86-90 (1988).

"Risks of HIV Exposure to Medical Students and Health Care Personnel," 264 The Journal of the American Medical Association 1187 (1990).

"The Direct Costs of Universal Precautions in a Teaching Hospital," 264 The Journal of the American Medical Association 2083-2087 (1990).

AMERICAN HOSPITAL ASSOCIATION

Universal Precautions: Policies, Procedures, and Resources, published by the American Hospital Association (1990).

> This is a 400-page manual designed for health care facilities in the process of developing comprehensive infection control programs. It contains numerous sample policies and procedures related to the prevention and management of bloodborne infections.

THE HIV-INFECTED HEALTH-CARE WORKER

Reprinted by the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
CENTERS FOR DISEASE CONTROL
from MMWR, July 27, 1990, Vol. 39, No. 29,
pp. 489-493

Possible Transmission of Human Immunodeficiency Virus to a Patient during an Invasive Dental Procedure

CDC received a case report of acquired immunodeficiency syndrome (AIDS) in a young woman for whom an epidemiologic investigation had not established a source for her human immunodeficiency virus (HIV) infection (i.e., documented behavioral or other risk factors, including intravenous [IV]-drug use, sex with an HIV-infected person, or receipt of a blood transfusion or blood components). However, investigation revealed that 24 months before her AIDS diagnosis she had two teeth extracted by a dentist who had AIDS. Information on the dental procedure was obtained from interviews with the patient and reviews of her dental records and radiographs. This report summarizes the epidemiologic and laboratory findings of the investigation.*

The patient had two maxillary third molars extracted under local anesthesia in the dentist's office. The dentist had been diagnosed with AIDS 3 months before performing the procedure. Written documentation of the procedure was limited. Review of the radiographs indicated that the maxillary third molars were not impacted in bone. The patient reported that she received no general anesthetic or sedative and that during the procedure the dentist wore gloves and a mask. She did not recall, nor did review of the dental records reveal, any circumstances that would have exposed her to the dentist's blood (i.e., an injury to the dentist, such as a needlestick or cut with a sharp instrument). The patient had not received dental care from this dentist before the dental extractions.

Four weeks after the dental procedure, the patient sought medical evaluation for a sore throat. Review of her medical records revealed that she was afebrile, with moderately enlarged tonsils with ulcerations and moderately enlarged nontender anterior cervical lymph nodes. Rash, generalized lymphadenopathy, or fatigue were not reported or noted on the medical record. A "strep antigen" test was negative. The patient was diagnosed with pharyngitis and aphthous ulcers. Seventeen months after the procedure, she was diagnosed with oral candidiasis; 24 months after the procedure, she was diagnosed with *Pneumocystis carinii* pneumonia and was seropositive for HIV antibody. The patient reported no previous test for HIV infection.

Multiple interviews of the patient and her family and friends by health department staff and review of her medical and previous dental records did not identify factors that may have potentially placed her at risk for HIV infection. The patient reported no history of blood transfusions, IV-drug use, acupuncture, tattoos, or artificial insemination. Additionally, she denied a history of sexually transmitted diseases or pregnancies. VDRL and hepatitis B serologies were negative. The patient has never been employed in a health-care or other setting where she could have been exposed to HIV-infected blood or other body fluids. She reported two boyfriends before her diagnosis of AIDS; both were tested for HIV infection and were seronegative.

Blood specimens were obtained from the patient and the dentist. To determine the relatedness of the HIV strains from both persons, DNA was extracted from their peripheral blood mononuclear cells (PBMC). HIV sequences encoding the variable regions (V3, V4, and V5) and a constant region (C3) of the major external glycoprotein gp120 were selectively amplified using the polymerase chain reaction (PCR) (*1*). Amplified HIV DNA was molecularly cloned, and nucleotide sequences of multiple clones were determined. The relatedness of the sequences was analyzed by several computer-based methods in collaboration with Los Alamos National Laboratory.[*] This multifaceted analysis showed a similarity between the sequences from the patient and the dentist that was comparable to what has been observed for cases that have been epidemiologically linked (Los Alamos National Laboratory, unpublished data). Although the viral sequences from the dentist and the patient could be distinguished from each other, they were closer than what has been observed for pair-wise comparisons of sequences taken from the other North American isolates studied (*3*).

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*Single copies of this article will be available free until July 27, 1991, from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850; telephone (800) 458-5231.

Reported by: Div of HIV/AIDS and Hospital Infections Program, Center for Infectious Diseases; Dental Disease Prevention Activity, Center for Prevention Svcs; National Institute for Occupational Safety and Health, CDC.

Editorial Note: The case reported here is consistent with transmission of HIV to a patient during an invasive dental procedure, although the possibility of another source of infection cannot be entirely excluded. No case of such transmission has been previously described.

In this report, the possibility that the patient may have been infected with HIV during the dental procedure is based on the following considerations: 1) the patient had an invasive procedure performed by a dentist with AIDS (such procedures have been associated with transmission of hepatitis B virus, which is also a bloodborne pathogen, to patients); 2) an epidemiologic investigation did not identify any other risk factors or behaviors that may have placed the woman at risk for HIV infection; and 3) viral DNA sequences from the patient and the dentist were closely related. These three considerations are discussed as follows.

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[*] Viral sequences obtained from the samples taken from the dentist and the patient were shown to be distinct by the following criteria:

1. Each PBMC sample was split into two before extraction of DNA. PCR amplification of human leukocyte antigen (DQα) sequences was performed on each sample. The sequences were the same between samples from the same person, but the dentist and patient DNA samples were clearly different.
2. The average difference (4.6%, range: 2.0%–7.2%) between all viral V4-C3-V5 sequences present in the patient versus all those in the dentist was higher than the average difference between the viral sequences present within the dentist alone (3.5%, range: 1.2%–6.0%) and within the patient alone (2.0%, range: 0.4%–3.6%).
3. Viral sequences in the patient possessed some unique substitutions not found in the viral sequences from the dentist, and vice versa.

Viral sequences obtained from the samples taken from the dentist and the patient were judged to be closely related by the following criteria:

1. Individual consensus sequences deduced from single base substitutions (excluding insertions and deletions) in the patient's and dentist's viral sequence sets over the V3-V4-C3-V5 regions of the envelope gene differed by 1.2%. Corresponding DNA regions from 17 other distinct North American isolates gave pair-wise differences to the dentist's consensus viral sequence of 5.1%–10.2%, with an average of 8.1%. Similarly, comparison of the patient's consensus viral sequence to these 17 gave pair-wise differences of 5.9%–10.7%, with an average of 8.8%. The range of all pair-wise differences among the 17 was 4.7%–12.3%, with an average of 9.2%.
2. Unique patterns of nucleotide substitutions not found in any other virus isolate examined were shared between viral sequences found in the dentist and patient.
3. The average difference (4.6%) between all of the patient's viral sequences and all of the dentist's viral sequences over the V4-C3-V5 regions falls into a class of differences (3.4%–5.8%) similarly determined for viruses from known epidemiologically linked cases (*2*; Los Alamos National Laboratory, unpublished data). These include two instances of sexual transmission, one instance of perinatal transmission, and an instance in which a group of persons with hemophilia became infected from a single batch of factor VIII concentrate.

First, although the dentist was infected with HIV, it is uncertain whether the patient was exposed to the dentist's blood during the extraction procedure. When interviewed more than 2 years after the procedure, the patient recalled that the dentist wore gloves and a mask. The dental records contained few details on the extraction procedure, but there was no mention of any circumstances that may have exposed the patient to the dentist's blood. Review of the dental records and radiographs suggest that the extraction should have been uncomplicated.

The dentist recalled occasional needlesticks with narrow-gauge needles used to administer local anesthetic. After the diagnosis of HIV infection, however, the dentist did not recall sustaining a needlestick or cut resulting in visible blood during a procedure. The dentist, who is negative for hepatitis B surface antigen, is no longer in practice. Although the dentist employed assistants, it could not be determined whether or to what extent the dentist was assisted in the procedure reported here; it is not known whether the assistants were tested for HIV infection. Details of the disinfection and sterilization practices of the dental office are unknown.

Second, although multiple interviews with this patient and other persons did not identify any established risk factors for HIV infection, such risk factors involve sensitive personal behaviors that may not always be revealed during interviews. In addition, the patient's HIV-infection status at the time of the dental procedure is unknown. The possibility that the patient may have been infected through another mode cannot be entirely excluded.

Third, the DNA sequence data indicate a high degree of similarity between the HIV strains infecting the patient and the dentist. HIV-1 exhibits considerable genetic variability, particularly in the selected regions of the envelope gene tested. This property may be helpful in evaluating the relatedness of viral strains isolated from different persons (*2*). However, use of DNA sequencing for this purpose is new, and there is a paucity of sequence data pertaining to the HIV-1 viruses of sex partners and other epidemiologically related patients. The quantitative criteria for determining epidemiologic linkage based on HIV sequences are just now being developed.

In addition, the occurrence of pharyngitis 4 weeks after the dental procedure is consistent with an acute retroviral syndrome following HIV infection. However, the symptoms in this patient did not include fever, rash, or generalized lymphadenopathy, which have been described in most cases of acute retroviral syndrome (*4*). Also, the time between the dental procedure and the development of AIDS (24 months) was short; 1% of infected homosexual/bisexual men and 5% of infected transfusion recipients develop AIDS within 2 years of infection (*5,6*).

Prospective investigations of HIV transmission from patients to health-care workers indicate that the risk for HIV transmission after percutaneous exposure to HIV-infected blood averages 0.4% (*7*). Four investigations have been reported that attempted to assess the risk of HIV transmission from infected health-care workers to their patients (*8–11*). In the largest study, 616 patients who underwent surgery by a general surgeon during the 7 years preceding his diagnosis of AIDS were tested for HIV antibody. One patient, an IV-drug user, was positive for HIV antibody (*8*). Viral strains from the patient and the surgeon were not characterized.

Transmission of hepatitis B virus (HBV), which has epidemiologic transmission patterns similar to HIV, from health-care workers to patients during invasive medical (primarily gynecologic surgery) and dental (primarily oral surgery) procedures has been reported (*12–15*). The dental procedures in which HBV was transmitted involved oral surgical procedures such as dental extractions. In these reported instances, the dental workers did not routinely wear gloves and were thought to have sustained puncture wounds or had skin lesions or microlacerations that allowed virus to contaminate instruments or open wounds of patients. Also, these health-care workers (when tested) have been positive for hepatitis B e antigen, a marker that indicates very high titers of virus in blood and correlates with increased transmissibility of HBV.

Restrictions on patient care for health-care workers with HIV infection have been considered by the American Medical Association (*16*), the American Hospital Association (*17*), the American Dental Association (*18*), the American College of Obstetricians and Gynecologists (*19*), the British government (*20*), CDC (*21*), and other organizations. Although the specific recommendations of these organizations vary to some extent, these recommendations generally have stated that the risk, if any, of HIV transmission from health-care workers to patients occurs during invasive procedures and that decisions regarding restrictions of patient care by infected workers who perform such procedures should be made on an individual basis.

The epidemiologic and laboratory findings in this investigation indicate possible transmission of HIV from the dentist to the patient. Regardless of the interpretation of the findings in this investigation, adherence to universal precautions, including prevention of blood contact between health-care workers and patients and proper sterilization and disinfection of patient-care equipment, is important for prevention of transmission of bloodborne pathogens in health-care settings (*21–23*). CDC is considering the implications of this case in its review of the guidelines for prevention of transmission of HIV and other bloodborne pathogens to patients during invasive procedures.

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CDC

Update: Transmission of HIV Infection during an Invasive Dental Procedure — Florida

Possible transmission of human immunodeficiency virus (HIV) infection during an invasive dental procedure was previously reported in a young woman (patient A) with acquired immunodeficiency syndrome (AIDS) (*1*). Patient A had no identified risk factor for HIV infection and was infected with a strain of HIV closely related to that of her dentist as determined by viral DNA sequencing. A follow-up investigation has identified four additional patients of the dentist who are infected with HIV. Laboratory and epidemiologic investigation has been completed on three of these patients (Table 1); two are infected with strains closely related to those of the dentist and patient A but not to strains from other persons residing in the same geographic area as the dental practice. The follow-up investigation included review of medical records of the dentist and interviews of former staff on the infection-control procedures of the dental practice. This report summarizes the findings of the investigation.*

Epidemiologic Investigation of the Dentist's Patients

Following the initial report (*1*), the dentist wrote an open letter to his former patients, which prompted 591 persons to be tested for HIV antibody at the Florida Department of Health and Rehabilitative Services (HRS) county public health units; two (patients B and C) were seropositive. In addition, one infected patient (patient D) was identified by HRS by matching the list of available names of the dentist's former patients with the state's AIDS surveillance records, and another (patient E) contacted CDC to report that she was HIV-infected and a former patient of this dentist. Although

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*Single copies of this article will be available free until January 18, 1992, from the National AIDS Information Clearinghouse, P.O. Box 6003, Rockville, MD 20850; telephone (800) 458-5231.

TABLE 1. HIV-infected patients in a dentist's practice for whom DNA sequencing data are available and investigations are completed

Patient*	Sex	Identified risk factor	Clinical status	Dental visits No.	Dental visits Dates
A	Female	No	AIDS	6	Nov. 1987–Jun. 1989
B	Female	No	Asymptomatic CD4 >200–$<500/mm^3$	21	Dec. 1987–Jul. 1989
C	Male	Not confirmed	Asymptomatic CD4 $<200/mm^3$	14	Dec. 1984–May 1989
D	Male	Yes	AIDS	19	Jun. 1985–May 1989

*HIV DNA sequences for patients A, B, and C were similar to each other and to those of the dentist.

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the exact number of patients in this dental practice is unknown, approximately 1100 additional persons who may have been patients of the dentist and who could be located have been contacted by HRS to offer counseling and HIV-antibody testing; of these persons, 141 have been tested, and all are seronegative.

Patient B is an elderly woman for whom no risk factor for HIV infection could be established. She did not report intravenous (IV)-drug use or sexual contact with persons at risk for HIV infection. Based on interviews and review of her medical records, she had no history of transfusion, receipt of blood products, or illness compatible with an acute retroviral syndrome. Serologic tests for syphilis and hepatitis B virus (HBV) were negative. The patient's spouse, to whom she has been married >25 years, tested negative for HIV antibody.

Patient C is a young man who has reported multiple heterosexual partners and a history of non–IV-drug use, including one hospitalization for toxicity caused by an illicit drug. Other risk factors for HIV infection were suggested by secondary sources but were not corroborated by the patient. He had no history of transfusion, receipt of blood products, or illness compatible with an acute retroviral syndrome; serologic tests for syphilis and HBV were negative. His wife and other female sexual contacts who were tested were HIV seronegative.

Patient D is a man with AIDS with established risk factors for HIV infection. Patient E is a woman with HIV infection whose epidemiologic and laboratory investigation has not yet been completed. All patients (A–E) denied sexual contact with the dentist, and they did not name each other as sex partners.

From 1984 through 1989, patients A, B, and C made numerous visits to this dentist (Table 1) for a variety of procedures: patient A – extractions, prophylaxis (cleaning), and cosmetic bonding; patient B – extractions, prophylaxis, periodontal scaling and root planing, and fixed and removable prosthodontics; and patient C – extractions, prophylaxis, periodontal scaling and root planing, and restorative fillings.

On two occasions, two of these three patients had appointments on the same day: in 1987, patient B was examined for a toothache the same day patient A had two maxillary third molars extracted; in 1989, patients B and C had prophylaxes performed on the same day. Neither the order nor the time of day of their appointments could be determined because appointment books could not be located; also, whether the dentist provided dental care for patients B and C during their appointments for prophylaxes is unknown.

To examine the likelihood that patients shared visit days, two conditional probabilities were calculated based on the number of visits made by each patient (six for patient A, 21 for patient B, and five for patient C) from November 1987 through the closure of the practice in July 1989[†]. These probabilities were calculated assuming visits occurred at random over the interval during days the dentist's office was open, without allowing multiple visits for the same patient on the same day. Given these assumptions, the probability of each of these patients having shared at least 1 day with another is 0.17; the probability of patients A and B having shared at least 1 day and patients B and C having shared at least 1 day is 0.13. These probabilities suggest that the shared visit days may have been chance events.

Laboratory Investigation

To determine the relatedness of the HIV strains from patients B, C, and D to those of the dentist and patient A, blood specimens were obtained from these patients and from eight HIV-infected persons (controls 1–8) randomly selected from two HIV clinics located within 90 miles of the dental practice. Six of the eight controls were men; the sex of the other two controls was not known. Most men in these clinics were either homosexual/bisexual or IV-drug users. Because the blood samples from the controls were collected anonymously, details of their sexual and dental histories were not available.

[†] The interval during which at least two of these HIV-infected persons (patients A, B, and C) were patients of this dentist.

Sequencing of the HIV proviral DNA present in these specimens was performed at CDC using previously described methods (*1–4*).[§] The sequences included an approximately 300-base-pair variable region (V3) and/or an approximately 350-base-pair region, consisting of variable regions (V4 and V5) and a constant region (C3), encoding the amino acids of gp120. From one to 25 molecular clones obtained from each specimen were sequenced.[¶]

In collaboration with Los Alamos National Laboratory, computer-based methods were used to analyze the relationships of HIV DNA sequences from the dentist, the four dental patients (A–D), and the eight control patients and from 21 other North American isolates (*5*). Because of the sequence variation between multiple molecular clones of HIV DNA obtained from the same person, consensus sequences were derived to represent the major viral strain present in each person. For four persons (the dentist, patients A and D, and one of the control patients), two consensus sequences were created to encompass the range of their HIV sequence variation.

Sequence variation can be depicted by tree analysis (*5*). The viruses of the dentist and patients A, B, and C are closely related in their V3 sequences (Figure 1), with an average difference of 3.4%. This degree of sequence relatedness has been reported only for multiple HIV strains obtained from a single person or for HIV strains from persons whose infections were epidemiologically linked (*3,4*). In contrast, the V3 sequences from the dentist and patients A, B, and C were not closely related to the viral sequences from patient D, seven control patients, and the 21 other North American isolates. Furthermore, the average viral sequence difference for patient D and seven control patients was approximately 13% (range: 8%–15%), suggesting that no particular HIV strain predominates in the geographic area in which the dentist practiced and indicating that no other instance of comparable viral sequence relatedness was identified.

In a separate analysis of a relatively conserved portion of the V4-C3-V5 region, including sequences from the eighth control, the viruses from the dentist and patients A, B, and C had an average difference of 1.8%, whereas the average difference of viruses from the local controls was 4.8%.

The low probability ($p = 0.006$, Wilcoxon rank-sum statistic) that the HIV DNA sequences from patients A, B, and C would be closer by chance alone to the sequence from the dentist than to the sequences from the eight controls indicates that the viruses from patients A, B, and C are significantly more similar to the dentist's virus than to the viruses of the controls.

[§] HIV exhibits considerable genetic variability, particularly in the gene for its envelope glycoprotein (gp120), and analyses of DNA sequences of this gene can be used to determine the relations of viruses infecting different persons. Analyses of multiple molecular clones of HIV obtained from an infected person can also define the range of genetic variation in the virus infecting that person. Sequence differences are least for viral clones obtained from a single infected person, intermediate for viruses from persons whose infections are epidemiologically linked, and greatest for viruses from persons whose infections are epidemiologically unrelated (*5*).

[¶] To assure that no laboratory error occurred, DNA sequences from patients B, C, and D encoding the human leukocyte antigen DQ α were amplified by the polymerase chain reaction. The lengths of the sequences from these specimens were distinct from each other and from the sequence lengths found for the dentist and patient A (*1*), confirming that each of the samples represented a different person. As an additional verification of the source of each set of DNA sequences, DNA oligonucleotides corresponding to short sequences unique to the HIV strains from each of these three persons were used as hybridization probes. The probes hybridized only with DNA from the person from whose virus the probe was derived.

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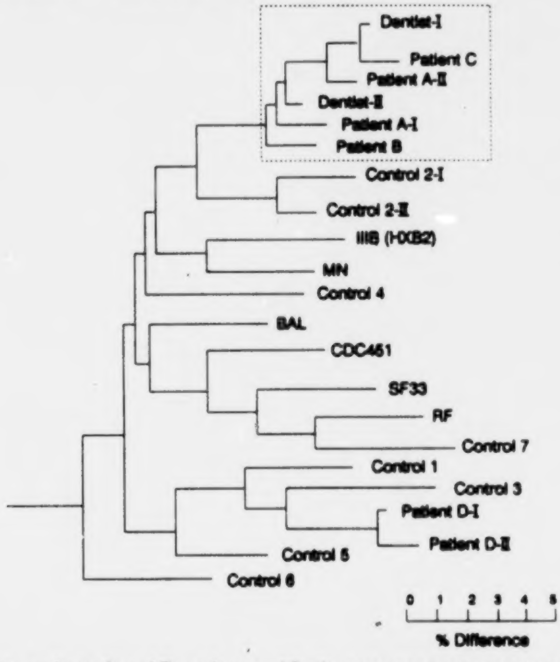
In addition, the HIV strains of the dentist and patients A, B, and C shared a unique pattern (or "signature sequence") of amino acids encoded by V3 nucleotides. This pattern was absent in the other sequences analyzed. This signature sequence provides additional evidence for the close relation among the viruses from the dentist and the three patients.

Medical History of the Dentist

Review of the dentist's medical records revealed that he was diagnosed with symptomatic HIV infection in late 1986, and AIDS in September 1987. At the time of the AIDS diagnosis, his CD4 lymphocyte count was $<200/\text{mm}^3$; zidovudine therapy was begun, discontinued for a short period in late 1987, then restarted and continued until after the practice closed in 1989. In 1988, he received radiation therapy for Kaposi's sarcoma of the palate. He performed invasive procedures on patients A and B after he was diagnosed with AIDS, including the brief period when he was not receiving antiretroviral therapy, and on patient C both before and after he was

FIGURE 1. Tree analysis of V3 nucleotide sequences from the dentist; patients A, B, C, and D; and seven local control patients* and from six North American HIV isolates (IIIB [HXB2], MN, BAL, CDC451, SF33, and RF)


Dentist-I
Patient C
Patient A-II
Dentist-II
Patient A-I
Patient B
Control 2-I
Control 2-II
IIIB (HXB2)
MN
Control 4
BAL
CDC451
SF33
RF
Control 7
Control 1
Control 3
Patient D-I
Patient D-II
Control 5
Control 6
0 1 2 3 4 5
% Difference

For the dentist, patients A and D, and control 2, alternate consensus sequences are indicated by Roman numerals (I and II). The horizontal branch lengths (see scale) indicate percent nucleotide differences calculated based on a total of 308 nucleotides from the V3 region. The percent difference between any two viruses can be determined by adding the horizontal branch lengths needed to connect the two. Vertical distances in the figure are for illustration purposes only. The dotted box indicates the cluster of closely related sequences present in the viruses from the dentist and patients A, B, and C. More distant North American HIV sequences are not shown.

*No V3 sequence was available for the remaining control patient.

diagnosed with symptomatic HIV infection. While the dentist was in practice, he had no record of peripheral neuropathy, dementia, thrombocytopenia or other bleeding disorder, hand dermatitis, or injury.

Investigation of the Dental Practice

The office employees of the dentist were interviewed regarding infection-control and other work practices of the dental office. Of the 14 employees, eight have been tested for HIV antibody; all were negative, including the dental hygienists who could have performed prophylaxes on patients A, B, and C. Interviews revealed that no written policy or training course on infection-control principles or practice was provided for staff by the dentist and that no office protocol existed for reporting or recording injuries, such as needlesticks or other percutaneous injuries involving sharp instruments or devices. Anesthetic needles were either recapped by the dentist using a two-handed technique** or left uncapped and recapped by the assistant using a two-handed technique on completion of the dental treatment procedure. One seronegative staff person recalled sustaining an injury while washing sharp instruments, but no other specific incidents were reported by the staff. In addition, neither patient B nor patient C recalled, nor did review of the dental records indicate, any specific incidents that would have exposed them to the dentist's blood (i.e., an injury to the dentist, such as a needlestick or cut with a sharp instrument); however, no injury log was kept. The dentist could not be interviewed before his death regarding his care of these patients.

Staff members reported that barrier precautions had been introduced into the practice by early 1987 and that all staff, including the dentist, wore latex gloves and surgical masks for patient-care activities. Staff reported that they changed gloves and washed their hands between most patient contacts; occasionally, however, they washed gloves rather than changed them between patient contacts. Masks reportedly were changed infrequently. Staff reported that the dentist's use of gloves and mask and handwashing practices were similar to their own. None of the staff reported a history of dermatitis.

Staff reported that by 1987 all surgical instruments were autoclaved. Nonsurgical heat-tolerant instruments (e.g., dental mirrors) were autoclaved when practice conditions, such as time and instrument supply, allowed or were immersed in a liquid chemical germicide for varying lengths of time. Tests of the autoclave in October 1990 demonstrated that it was functioning properly. Dental equipment, such as handpieces, prophylaxis angles, and air/water syringe tips, were not autoclaved but were either wiped with alcohol or immersed in a liquid chemical germicide at irregular intervals. Some disposable items (e.g., saliva ejectors, high-speed evacuation tubes, and prophylaxis cups) occasionally were reused after being immersed in a liquid chemical germicide for varying lengths of time. Germicides known to be available in the dental office were isopropyl alcohol and 2% glutaraldehyde. The dental practice had no written protocol or consistent pattern for operatory cleanup and instrument reprocessing.

Office staff also reported that the dentist occasionally received prophylactic treatment from the hygienists; at least one hygienist topically treated an oral lesion of the dentist on one occasion in 1987.

Reported by: JJ Witte, MD, Florida Dept of Health and Rehabilitative Svcs. Div of HIV/AIDS and Hospital Infections Program, Center for Infectious Diseases; Dental Disease Prevention Activity, Center for Prevention Svcs; National Institute for Occupational Safety and Health, CDC.

Editorial Note: Based on the following considerations, this investigation strongly

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**Needle-recapping procedure in which the syringe with exposed needle is held in one hand and the needle cap or sheath is held in the other hand.

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suggests that at least three patients of a dentist with AIDS were infected with HIV during their dental care: 1) the three patients had no other confirmed exposures to HIV; 2) all three patients had invasive procedures performed by an HIV-infected dentist; and 3) DNA sequence analyses of the HIV strains from these three patients indicate a high degree of similarity of these strains to each other and to the strain that had infected the dentist—a finding consistent with previous instances in which cases have been linked epidemiologically (*3,4*). In addition, these strains are distinct from the HIV strains from patient D (who had known behavioral risks for HIV infection), from the strains of the eight HIV-infected persons residing in the same geographic area, and from the 21 other North American isolates.

Because the dentist had known behavioral risk factors for HIV, his infection was probably not occupationally acquired. The precise mode of HIV transmission to patients A, B, and C remains uncertain. All three patients had invasive dental procedures performed by the dentist at times when he was known to be HIV-infected, with patients B and C each having multiple invasive procedures. Multiple opportunities existed for the dentist to sustain needlestick injuries (e.g., during administration of local anesthetics, two-handed needle-recapping procedures, and suturing) or cuts with a sharp instrument, particularly in poorly visualized operative sites. Although barrier precautions were reportedly used, these techniques were not always consistent or in compliance with recommendations. Furthermore, barrier precautions do not prevent most sharps injuries (e.g., puncture or cut wounds); therefore, the occurrences of puncture or cut wounds during treatment may have allowed the dentist's blood to enter an open wound or contact mucous membranes of a patient directly. Objective assessment of sharps injuries, beyond self-reports by the staff and a previous report by the dentist, was not possible (*1*).

Patients A, B, and C had invasive dental procedures performed after the dentist's diagnosis of AIDS, and two of the patients did not receive dental care from this dentist until after he had been diagnosed with AIDS and had evidence of severe immunosuppression (i.e., CD4 lymphocyte count $<200/\text{mm}^3$). At this time, higher titers of virus may have been present in the dentist's blood and he may have been more likely to transmit virus than earlier in the course of his HIV disease (*6*).

Transmission might also have occurred by the use of instruments or other dental equipment that had been previously contaminated with blood from either the dentist or a patient already infected by the dentist. The office did not have a written policy for reprocessing dental instruments and equipment and reportedly did not consistently adhere to all recommended guidelines (*7–11*). However, this mode of transmission may be less likely than direct blood-blood transfer during an invasive procedure because HIV is present in blood at low concentrations, does not survive in the environment for extended periods, and has not demonstrated resistance to heat or to commonly used chemical germicides (*7*). The investigation suggested that the instances in which two of the three patients had appointments on the same day may have been chance occurrences. In addition, no invasive procedure was documented for patient B on the day both she and patient A visited the office, and the HIV status of patients A, B, and C is unknown for the days of their shared visits.

The precise risk for HIV transmission to patients during invasive procedures is not known but is most likely very low (*1*). Although AIDS has been recognized in the United States since 1981, the cases described here are the first in which such transmission has been reported.

Guidelines for prevention of transmission of HIV and other bloodborne pathogens in health-care settings have been published by CDC and others (*7–12*); these guidelines promote adherence to universal precautions, including prevention of blood contact between health-care workers and patients, and proper cleaning and sterilization or disinfection of instruments and other patient-care equipment.

CDC will convene a meeting in Atlanta on February 21–22 to review current information on risks of transmission of HIV and HBV to patients during invasive procedures and to assess the implications of these risks. Information regarding this meeting can be obtained from the meeting organizers, PACE Enterprises, at (404) 633-8610.

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DRAFT

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ESTIMATES OF THE RISK OF ENDEMIC TRANSMISSION OF HEPATITIS B VIRUS AND HUMAN IMMUNODEFICIENCY VIRUS TO PATIENTS BY THE PERCUTANEOUS ROUTE DURING INVASIVE SURGICAL AND DENTAL PROCEDURES

January 30, 1991

Centers for Disease Control
Public Health Service
U.S. Department of Health and Human Services
Atlanta, GA 30333

296

DRAFT

DRAFT 1/30/91: ESTIMATES OF THE RISK OF ENDEMIC TRANSMISSION OF HEPATITIS B VIRUS (HBV) AND HUMAN IMMUNODEFICIENCY VIRUS (HIV) TO PATIENTS BY THE PERCUTANEOUS ROUTE DURING INVASIVE SURGICAL AND DENTAL PROCEDURES

INTRODUCTION

Occupational transmission of bloodborne pathogens (e.g., HBV and HIV) to health-care workers (HCWs) from patients in the health-care setting is well documented. HBV has also been transmitted, although less frequently, from infected HCWs to patients during invasive procedures. Recently, transmission of HIV from a HCW to patients during invasive dental procedures was reported[1,2].

This document reviews available scientific data relevant to assessing the risk of HBV and HIV transmission to patients during invasive surgical and dental procedures performed by infected surgeons and dentists. Based on available data, estimates are presented of the risk of endemic transmission (i.e., sporadic cases not associated with outbreaks) of HBV and HIV to patients as the result of percutaneous exposures during invasive procedures[a] performed by infected surgeons and dentists. Percutaneous exposures to infected blood are likely to be responsible for most cases of HBV and HIV transmission in health-care settings, when appropriate barrier precautions (i.e., gloves, masks, etc.) are utilized and recommended sterilization and disinfection procedures are followed. Estimates are also presented of the number of patients who may potentially have been infected with HBV and HIV due to percutaneous exposure to blood of HBV and HIV-infected surgeons and dentists in the United States during the 10 year period 1981-1990.

BACKGROUND

Blood Exposures Among Patients During Surgical Procedures

HCWs who perform or assist in surgical procedures may experience percutaneous injuries which expose them to patients' blood and, in some cases, could potentially expose patients to HCWs' blood as well. Examples of situations in which patients might be exposed to a HCW's blood during invasive procedures include: 1) injury of a HCW with a sharp object, followed by percutaneous inoculation of the patient or contact of the object with a patient's open wound or body cavity; 2) injury of the HCW by a sharp wire or bone fragment which is fixed inside a patient's body; 3) laceration or puncture of the HCW's skin with a sharp instrument, resulting in bleeding into a patient's open wound or body cavity; 4) contact of a patient's open wound with exudate from a HCW's exudative dermatitis or other skin lesions; 5) contact with the blood of a HCW (or of another patient) through inadequate sterilization or disinfection of reusable devices used in invasive procedures.

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[a] In this document, invasive procedures for which risk estimates are made include procedures requiring a skin or mucous membrane incision performed by a surgeon in an operating room and dental procedures performed by a dentist or oral surgeon which predictably result in patient bleeding.

In 6 prospective studies, the percentage of surgical or obstetrical procedures during which at least one member of the surgical team experienced a percutaneous injury ranged from 1.3-15.4%[3,4,5,6,7,8]. The proportion of these surgical procedures in which a patient may have been exposed to the HCW's blood is unknown. In a more recent prospective CDC observational study conducted in 4 hospitals, preliminary data indicate that one or more percutaneous injuries occurred among surgical personnel during 96 (6.9%) of 1382 operative procedures on the general surgery, gynecology, orthopedic, cardiac, and trauma services[9]. The mean rate of injury resulting in percutaneous exposure to patient blood for a surgeon was 2.5 per 100 surgeon-procedures[b] (range among the specialties 1.4-4.0). The observers noted that the sharp object causing the injury recontacted the patient's open wound, resulting in a potential percutaneous exposure of the patient to the HCW's blood, in 28 (32%) of the 88 observed injuries in surgeons (range among surgical specialties 8-57%; range among hospitals 24-42%). Of these 28 injuries, 21 (75%) were caused by suture needles, 3 (11%) were caused by surgical wires, and one each was caused by a bone fragment, scissors, a staple gun, and a retractor.

HBV Transmission in Health-care Settings

HBV infection is a well recognized occupational risk for HCWs who have not been immunized against HBV. Physicians, dentists and other groups of HCWs have a three to five fold higher prevalence of HBV infection compared with the general population[10,11,12,13]. Approximately 15% of HCWs have serologic evidence of previous HBV infection; an average of 0.6% are HBV carriers[14,15,16].

Transmission of HBV from infected HCWs to susceptible patients has been reported in several epidemiologically well-defined situations. Since the introduction of serologic testing for HBV infection in the early 1970s, 20 outbreaks of HBV infection in patients associated with treatment by an HBV-infected HCW have been published. Nine of these outbreaks were linked to a dentist or oral surgeon; 3 to a cardiovascular surgeon; 5 to an obstetrician or gynecologist; and 1 each to a general practitioner, an inhalation therapist, and a cardiopulmonary bypass pump technician[17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36]. The number of patients infected in each outbreak ranged from 3 to 55. Of the 20 outbreaks, 12 occurred in the United States, all prior to 1987 (i.e., before heightened awareness of the risks of transmission of bloodborne pathogens in health-care settings and emphasis on the use of universal precautions and hepatitis B vaccine among HCWs). In the 12 outbreaks recognized in the United States since 1972, approximately 250 patients were infected.

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[b] A surgeon-procedure was defined as one surgeon participating in one procedure. Thus, one surgeon performing two procedures (i.e., on two different patients) was considered to be two surgeon-procedures. Similarly two surgeons participating in one procedure (i.e., on the same patient) was considered to be two surgeon-procedures.

A combination of risk factors for transmission of HBV were identified in the 20 investigations. First, of the HCWs whose hepatitis B e antigen (HBeAg) status was determined (17 of 20), all were HBeAg positive. The presence of HBeAg in serum is associated with higher levels of circulating virus and therefore greater infectivity of HBsAg positive individuals[37]; the risk of HBV transmission after a percutaneous exposure to HBeAg positive blood is approximately 30%[38 39]. Second, most of the procedures implicated in transmission had a relatively high degree of invasiveness (e.g. dental extraction as opposed to dental prophylaxis). Finally, in each reported occurrence of transmission, the potential existed for contamination of surgical wounds or traumatized tissue, either from a major break in standard infection control practices (such as not wearing gloves during invasive procedures) or from unintentional injury to the HCW during the procedures (such as needlesticks incurred while palpating needles blindly during suturing).

Seven HCWs who were linked to outbreaks were allowed to perform invasive procedures again following modification of invasive techniques (e.g., double gloving and restriction of certain high risk procedures)[17,19-24,31]. For 5 HCWs, no further transmission to patients was observed; however, HBV infection was transmitted to patients of 2 HCWs even after modification of techniques[17 20].

To estimate the risk of endemic transmission of HBV from HCWs to patients, several prospective studies have followed patients treated by HBV-infected HCWs who performed invasive procedures, including dentists, oral surgeons, general surgeons, and orthopedic surgeons[24 40 41 42 and CDC, unpublished data]. The studies included HCWs who were either HBeAg positive carriers, or HCWs with acute HBV infection. Collectively, of 1,640 patient-procedures performed by infected dentists and surgeons, one HBV seroconversion in a patient of a general surgeon was identified (observed rate 0.06%; upper limit of the 95% confidence interval, 0.36%; CDC, unpublished data).

National surveillance and special surveillance studies have shown that most patients with acute HBV infection have identifiable risk factors not associated with having had a medical or dental procedure in the six months before onset of illness[43,44]; however, the ability of surveillance systems to detect individual cases of transmission of HBV from HCW to patient is limited. A recent case-control study (with an 80% power to detect a 2.3 fold increased risk of infection) did not find an association with recent dental work, hospitalization, surgery, or medically related injections as a possible source of infection in 72 patients without an identifiable source for their infection[44].

HIV Transmission in Health-care Settings

Transmission of HIV from patients to HCWs as a result of occupational exposure is well documented[45,46]. As of December 31, 1990, CDC is aware of 24 HCWs in the United States who have seroconverted to HIV following an occupational exposure to HIV. In addition, 16 HCWs have been reported in whom HIV infection was thought to be occupationally-acquired, but in whom seroconversion after a specific exposure incident could not be documented. At least 11 additional cases of occupationally acquired HIV infection from outside the United States have been reported and/or published[45].

Prospective studies indicate that the risk of HIV transmission to a HCW due to a single occupational percutaneous exposure to HIV-infected blood is, on the average, 0.3%; (upper limit of the 95% confidence interval 0.6%)[47,48]. Transmission of HIV after a mucous membrane or skin exposure to HIV infected blood has been reported[49], although the risk of transmission after such exposures is unknown because no seroconversions have been detected in cohort studies of HCWs after mucous membrane and skin contact with HIV-infected blood[47,48]. Based on these studies, the upper limit of the 95% confidence interval for the risk of HIV transmission after mucous membrane and skin contact with HIV-infected blood is 0.3% and 0.09% respectively.

As of September 30, 1990, CDC had received reports of 122,159 persons with AIDS for whom occupational information was available. Of these persons, 5,815 (4.8%) had been employed in health care settings, including 4,869 persons for whom a specific occupation was reported. Although the total number of those HCWs who performed invasive procedures is unknown, 156 cases were reported in dental workers[c] and 42 in surgeons. The total number of dental workers and surgeons with HIV infection in the United States is also unknown, but may be estimated as the number of reported AIDS cases in these occupational groups multiplied by a factor of 8[d]; i.e., 1,248 dental workers and 336 surgeons.

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[c] The number of these 156 workers who are dentists is unknown. It is believed, however, that most are dentists, rather than dental hygienists or assistants. Of the 156 dental workers with AIDS, 140 (89.7%) are male, whereas 0.8% of dental hygienists are male.

The risk of transmission of HIV from an infected HCW to a patient during an invasive procedure has not been extensively studied. Since the risk to a HCW of HIV transmission following percutaneous exposure to HIV-infected blood is considerably lower than the risk of HBV transmission following percutaneous exposure to blood that is positive for HBeAg (0.3% versus approximately 30%), it is likely that the risk of transmission of HIV from a HCW to a patient during an invasive procedure is also considerably lower than the risk of transmission of HBV from a HBeAg positive HCW to a patient during the same procedure. Investigation of one outbreak in the practice of a dentist with AIDS strongly suggested that HIV was transmitted to 3 (0.4%) of 733 patients (including the index patient) who have been evaluated to date[12]. This rate must be considered preliminary and interpreted with caution, since it is not known how many of the patients tested underwent invasive procedures and since test results for many patients are not currently available.

Three retrospective studies have been reported in which HIV antibody testing was offered to patients of surgeons with AIDS. In the largest and most systematic study, HIV antibody testing was offered to all patients who had a surgical procedure performed by a general surgeon within 7 years before the surgeon's diagnosis of AIDS[50]. Of 1,340 patients who were contacted, 616 were tested. One patient, a known intravenous drug user, was seropositive for HIV. The patient's HIV serostatus at the time of surgery is unknown; however, he had been diagnosed with extrapulmonary tuberculosis by the time of surgery. As extrapulmonary tuberculosis is often associated with HIV-induced immunosuppression, this suggests that he may have had HIV infection at that time. Excluding this patient, the observed transmission rate was 0/615 operations (0.0% per operation; upper limit of the 95% confidence interval 0.5%). The ability of this study to detect HIV transmission to patients is limited by two considerations in addition to the number of patients tested. First, since the date of the surgeon's HIV infection is unknown, it is unknown what proportion of the 616 patients tested were operated on by the surgeon while he was infected. Second, the proportion of the patients tested who may have been exposed to the surgeon's blood (e.g., through needlesticks or injuries with other sharp instruments and recontact with the patient's tissue or blood), if any, is unknown but likely to be a small fraction of the 616 patients tested.

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[d] In 1989, CDC estimated that about 1 million persons in the United States were infected with HIV. The ratio of 1 million infected persons to the number of AIDS cases for which occupational data are available (122,159) is approximately 8.

In two other studies, 75 and 62 patients, respectively, of a general surgeon and a surgical resident with AIDS were tested for HIV antibody[51,52]. All patients were HIV seronegative, although in the latter study, most patients were tested less than 90 days after surgery. If infected during surgery, a patient may not yet have developed HIV antibodies when tested.

ESTIMATES OF RISK OF ENDEMIC HIV AND HBV TRANSMISSION FROM INFECTED HEALTH-CARE WORKERS (HCWs) TO PATIENTS DUE TO PERCUTANEOUS EXPOSURES DURING INVASIVE PROCEDURES

When appropriate barrier precautions (i.e., gloves, masks, etc.) are utilized and recommended sterilization and disinfection procedures are followed, most remaining cases of HIV and HBV transmission in health care settings are likely to result from percutaneous injuries to HCWs. The risk of transmission of HIV or HBV from an infected HCW to an uninfected or non-immune patient due to a percutaneous exposure of the patient to the HCW's blood during an invasive procedure is not known precisely, but may be estimated as the product of the probabilities that 1) the HCW will suffer a percutaneous injury during the procedure; 2) the sharp object causing the injury will recontact the patient's open wound, resulting in a percutaneous exposure of the patient to the HCW's blood; and 3) infection transmission to the patient will occur after such an exposure. A risk model constructed using this approach is presented below.

Risk Model

As noted above, preliminary data from a CDC observational study of 1382 operations in 4 hospitals indicate that the mean rate of injury resulting in percutaneous exposure to patient blood for a surgeon on the general surgery, gynecology, orthopedic, cardiac, and trauma services was 2.5 per 100 surgeon-procedures (range among the specialties 1.4-4.0) (Table 1, column A). In 28 (32%) of the 88 observed injuries in surgeons, the sharp object (usually a suture needle) causing the injury recontacted the patient's open wound (range among specialties 8-57%; range among hospitals 24-42%) (Table 1, column B).

In separate studies conducted by CDC and others, the probability of HIV or HBV transmission after a percutaneous exposure has been estimated to be approximately 0.3% for HIV-infected blood and 30% for HBeAg positive blood. Although risk factors for transmission after a percutaneous exposure have not been defined, solid bore suture needles may pose less risk than hollow bore needles because less blood may be introduced into the wound. Also, passage of a sharp object through glove material may result in less blood exposure. Therefore, the values chosen for probability of transmission after a percutaneous exposure have included the observed values of 0.3% and 30% and have also included arbitrarily chosen reductions in these values by a factor of 10 (Table 1, column C).

The probability of transmission from an HIV positive or HBeAg positive surgeon to a single patient may be estimated by the product A*B*C. For HIV, the probability ranges from 0.0024% (1 in 41,667) to 0.00024% (1 in 416,667)[*]. For HBeAg, the probability ranges from 0.24% (1 in 417) to 0.024% (1 in 4,167) (Table 1, column D). As noted above, these estimates of the risk of HBV transmission are consistent with observed experience in prospective studies of surgeons and dentists who either had acute HBV infection or were carriers of hepatitis B e antigen. Among 1,640 procedures performed by such individuals, HBV seroconversion was identified in one patient (observed rate, 0.06%; CDC, unpublished data).

The cumulative probability that an infected surgeon will transmit infection to at least one patient during N procedures can be estimated as $1-(1-P)^N$, where (1-P) is the probability that no transmission will occur. Cumulative probabilities have been calculated for one year (assuming that a surgeon may perform 500 procedures per year) and for a surgeon's working lifetime after acquisition of HIV infection, assumed to be 7 years (3,500 procedures) (Table 1, column E). For example (first line of column E), if the risk of HIV transmission after a percutaneous exposure of a patient to an infected surgeon's blood is taken to be 0.3%, the probability that an HIV-infected surgeon will transmit HIV to at least one patient during one year of practice (approximately 500 procedures) is 1.2% (range among specialties 0.2-2.8%). The probability that the surgeon will transmit HIV to at least one patient during the remainder of his/her working lifetime (7 years, 3,500 procedures) is 8.1% (range among specialties 1.0-18.3%). If the risk of transmission is taken to be 0.03%, the probabilities are 0.12% during one year (range among specialties 0.02-0.3%) and 0.8% during 7 years (range among specialties (0.1-2.0%).

Estimates Based on the Model

Theoretical estimates of the number of patients who may have acquired HIV infection from infected surgeons in the United States can also be derived, based upon estimates of the number of surgeons with HIV infection, the number of invasive procedures performed by each surgeon while infected, and the probability of transmission to a single patient (Table 2).

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[*] In this table and throughout the document, percentages and calculated values may be inexact due to rounding.

Similar estimates for dental workers (i.e., oral surgeons, dentists, dental hygienists) are hampered by the lack of prospective studies of the frequency of percutaneous injuries in these workers and the percent of such injuries which result in possible exposure of a patient to the worker's blood. Lacking such studies, it is difficult to estimate the risk to a patient of undergoing an invasive procedure by an HIV-infected dental worker. Available data permit only an indirect estimate. If a dentist performs approximately 3,000 procedures per year having potential "exposure to blood" of a patient (calculated from testimony presented by the American Dental Association at Occupational Safety and Health Administration hearings, 1989) and has 12 percutaneous injuries per year (based on a retrospective questionnaire survey[53]), the rate of percutaneous injury to a dentist is 0.4 per 100 procedures. Assuming that the percent of injuries in which the sharp object recontacts the patient is the same as for surgeons (32%), and the risk of HIV transmission after a percutaneous exposure to HIV-infected blood is 0.3%, the risk to a patient during a dental procedure with potential blood exposure performed by an HIV-infected dentist is 0.004 x 0.32 x 0.003 = 0.0000038; i.e., 1/263,158. Using the lower value of 0.03% for HIV transmission after a percutaneous exposure to HIV-infected blood, the risk to a patient per procedure is 0.004 x 0.32 x 0.0003 = 0.00000038; i.e., 1/2,631,579. Therefore, the number of patients who may have acquired HIV infection during procedures with potential exposure to blood performed by infected dentists during 1981-1990 can be estimated (Table 2).

To date only a small fraction of this theoretical patient pool would have developed AIDS; therefore, it is possible that the source of infection in such persons could remain undetected by current surveillance methods.

The number of patients infected with HBV during invasive procedures performed by HBeAg positive surgeons and dentists from 1981-1990 can also be estimated, using a different approach based upon the HBsAg seroprevalence in these occupational groups (Table 3). Among 124,000 surgeons in the U.S., 0.6% are estimated to be HBV carriers[14 15 16]; of these, 20% are estimated to be positive for hepatitis B e antigen (CDC, unpublished data). The 149 HBeAg positive surgeons are estimated to perform a mean of 500 invasive procedures per year for 10 years. Multiplication by the risk of HBV transmission to a patient during a single procedure (Table 1) yields estimates of 179 or 1,788 patients infected during the decade, depending on whether the risk of infection after exposure to HBeAg positive blood is taken to be 3% or 30%. For dental patients, the risk of HBV transmission during a procedure with potential blood exposure performed by an infected dentist can be estimated in a similar manner to that described for Table 2; i.e., 0.004 probability of injury to a dentist per procedure x 0.32 probability of the sharp object recontacting the patient x 0.03 or 0.30 risk of HBV transmission after an exposure equals

0.000038 or 0.00038, yielding estimates of 227 or 2,269 patients infected from dentists between 1981 to 1990. Combining infections from surgeons and dentists, the estimated number of acute HBV infections is from 406 to 4,057.

The number of chronic HBV infections during the decade would be expected to be 20-406, assuming a 5-10% risk of becoming chronically infected with HBV after acute infection[54]. Eventual mortality from HBV infection can be estimated as the sum of 1) the risk of fulminant death from acute infection (0.125 %) and 2) the risk of dying from chronic liver disease resulting from infection. The risk of dying from chronic liver disease is equal to the risk of becoming an HBV carrier after acute infection (5-10%) x the lifetime risk of death from cirrhosis or liver cancer for an HBV carrier (21%)[54,55]. Therefore, eventual mortality due to HBV infection is 1.2% to 2.2%; i.e., [0.00125 + (0.05 x 0.21)] to [0.00125 + (0.1 x 0.21)]. According to this model, 5-89 deaths [1.2% of 406 to 2.2% of 4,057 deaths] due to HBV infection would be expected among the estimated 406-4,057 persons infected with HBV during invasive procedures.

Of the 406-4,057 patients estimated from this model to have acquired acute HBV infection between 1981 and 1990, approximately 50% would be expected to be symptomatic; this would result in 20-203 symptomatic cases annually. This annual number of symptomatic cases is less than 0.2% of the 150,000 symptomatic cases of acute HBV infection estimated to occur annually in the United States[56]. Because the theoretical number of cases occurring as a result of invasive procedures is an extremely small percentage of the total number of cases, surveillance systems to date may not have detected sporadic cases in the absence of temporal clustering in an outbreak.

In this model, the risk of death due to infection transmission for patients undergoing invasive procedures is comparable for HBV and HIV. The probability of death due to HIV infection is at least 0.95 (San Francisco Department of Public Health, unpublished data); therefore, at least 12-122 deaths due to HIV infection would be expected to occur among the estimated 13-128 persons infected with HIV during invasive procedures between 1981 and 1990. This is in the same order of magnitude as the 5-89 deaths due to HBV infection among persons infected with HBV during invasive procedures.

Limitations of the Model and the Estimates

Several important limitations of this model and these estimates must be emphasized. First, the model is applicable only to endemic (sporadic) transmission and does not take into account the possibility of higher rates of transmission during outbreaks. In such outbreaks, which have been documented for HBV and more recently for HIV, the risk of transmission to patients is higher.

For example, in prospective studies of surgeons and dentists who were either HBeAg positive or had acute HBV infection, the risk of HBV transmission to a patient was approximately 1 in 1,640 procedures performed (0.06%), as noted above. However, in HBV outbreaks associated with infected HCWs for which rates of HBV transmission to patients could be calculated, these rates have ranged from 0.8%[21] to 9.0%[33]. In one outbreak, the risk of HBV transmission to patients undergoing hysterectomy or cesarean section was 21.5%[33]. Nosocomial outbreaks in which the risk of transmission was elevated above an endemic, "baseline" risk (and in which transmission from HCW to patient continued despite application of control measures) have also been described for other pathogens[57 58]. The causes of increased transmissibility in outbreaks are not always clear, but may include variations in procedures performed, surgical or dental techniques used, infection control precautions used, titer of the infecting agent, and susceptibility of the patients to infection.

Second, the model assumes that the mechanism of patient exposure to HIV or HBV consists of a discrete percutaneous exposure to a HCW's blood due to an injury to the HCW with a sharp object, followed immediately by recontact of the object with the patient's open wound. The model does not take into account possible additional mechanisms, including 1) mucous membrane or skin exposure of a patient to a HCW's blood; 2) a laceration of the HCW resulting in frank bleeding into a patient's open wound or body cavity; 3) prolonged or repeated exposure of a patient resulting from continued use of an instrument with unrecognized contamination by the HCW's blood; 4) contact of a patient's open wound with exudate from a HCW's exudative dermatitis or other skin lesion; 5) contact with the blood of a HCW (or of another patient) through inadequate sterilization or disinfection of reusable devices used in invasive procedures.

Third, data on the frequency of injuries in surgical and dental settings are limited and may not be applicable to all surgical and dental invasive procedures or to all surgeons or dentists. Estimates of injury frequency in dental settings used in the model must be interpreted with particular caution, since these data were obtained from a retrospective questionnaire survey, rather than from prospective studies, and from estimates of numbers of procedures with potential "blood exposure" performed by dentists. Many of these procedures may not have been as invasive as the procedures observed in the surgical study.

Fourth, the probability of infection transmission after a percutaneous exposure to blood might be affected by the nature of the injury and other factors which were not taken into account in the model, due to the lack of epidemiologic data to assess or quantitate the possible influence of these factors. For example, the nature of injuries may be different in various surgical and dental procedures. In the surgical study cited in the model, most injuries were due to solid bore suture needles, which may be less likely to result in blood transfer and transmission of infection than hollow bore needles. In dentistry, a different proportion of injuries may be due to hollow bore needles, because of the frequent use of such needles to administer anesthetic in confined and poorly visualized spaces. Other factors may be important as well. Passage of a needle through glove material might possibly reduce the risk of infection transmission if blood on the needle exterior is partially removed by the material. The probability of HIV transmission after a percutaneous exposure might be lower if the source-person (in this case, the HCW) has asymptomatic HIV infection rather than AIDS, due to increases in the titer of HIV in blood with progression of HIV infection and disease[59,60]. Also, the probability of transmission might be decreased for source-persons taking antiviral drugs, if these drugs resulted in a decrease in titer of circulating virus sensitive to the drugs.

Fifth, the probability of percutaneous injury may be increased for surgeons and dentists who have neurologic abnormalities, e.g., peripheral neuropathy, due to underlying HIV disease or antiviral therapy.

Sixth, the risk model is based on the assumption that all of its components (i.e., A, B, and C in Table 1) and the multiple invasive procedures over which cumulative risk is calculated are independent events.

Seventh, the estimates of the number of patients infected during invasive procedures and mortality due to these infections do not include transmission of infection by these patients to sex partners or offspring. Estimates of mortality do not take into account that patients may die of illnesses unrelated to HIV or HBV infection (including illnesses associated with the indication for their invasive procedure) prior to dying of HIV or HBV related sequelae.

Finally, the model and estimates do not take into account the pre-existing prevalence of HBV and HIV infection and HBV immunity in patients or HCWs or secular trends in these prevalence rates. HIV prevalence is likely to increase in future years, resulting in increased numbers of source-persons who may transmit infection and also of persons who are already infected and who may be resistant to reinfection. With the increased use of HBV vaccine, the prevalence of HBV infection and HBeAg positivity in HCWs may be expected to decline.

Other Risks to Patients in Health-care Settings

Risks of HIV and HBV infection and other selected adverse events occurring in health-care settings are presented in Table 4. These risks are presented for discussion, but direct comparisons between risks must be undertaken with caution, taking into account whether a particular risk is unavoidable (e.g., risk of anesthesia if surgery is essential), whether the risk is outweighed by a relative benefit (therapy with penicillin as opposed to a possibly less effective drug), whether a risk would be voluntarily accepted by a HCW or patient, and whether the costs of reducing the risk are justified by the potential benefits.

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edited by David K. Henderson, MD

Position Paper: The HIV-Infected Healthcare Worker

The Association for Practitioners in Infection Control;
The Society of Hospital Epidemiologists of America

BACKGROUND AND PURPOSE

Consensus statements bearing on issues related to healthcare workers (HCWs) who are, or may be, infected by the human immunodeficiency virus (HIV) have been developed by the Centers for Disease Control (CDC),[1-3] the American Medical Association (AMA),[4] the American Academy of Pediatrics,[5] the American Hospital Association (AHA),[6] the American Academy of Orthopedic Surgeons,[7] the American College of Obstetricians and Gynecologists[8] and the British working groups.[9,10] In general, these organizations conclude that few, if any, special procedures are required to accommodate an HIV-infected HCW. All except one[7] oppose routine screening of HCWs for HIV infection; all except one[9] oppose broad practice proscriptions for HIV-infected HCWs. Only one of these consensus statements[9] focuses on the HIV-infected HCW. None address important related questions that confront hospitals and other healthcare institutions. These issues are difficult to resolve because: 1) there are insufficient data to establish a scientific basis for their solution; 2) the questions involve medicolegal, ethical or public relations issues that are beyond the usual scope of scientific consensus body recommendations; and/or 3) the situations occur infrequently. Nevertheless, in actual hospital practice, decisions about these questions, at least occasionally, must be made.

The directing boards of the Association for Practitioners in Infection Control (APIC) and the Society of Hospital Epidemiologists of America (SHEA) created a joint acquired immunodeficiency syndrome (AIDS) Task Force in 1987 to provide expertise on HIV-related issues. The Task Force has concluded that the unresolved issues in the current published guidelines related to the HIV-infected HCW merit further discussion. In an attempt to move toward a timely consensus, the Task Force has produced this position paper that has been approved unanimously by the parent boards. This paper is intended to stimulate discussion among professional organizations, medical groups and other interested parties. The boards of APIC and SHEA hope that sufficient comment will be generated to form the basis for revisions in the several existing proposals and that, ultimately, guidelines for a standard of practice that provides protection to patients and that is reasonable and based as much as possible on the limited available scientific data will evolve from this document and future revisions.

This position paper focuses on issues related to HIV-1 and HIV-1-infected HCWs, although the more generic term HIV is used for convenience throughout the manuscript. These issues generally apply to HCWs infected with hepatitis B virus (HBV), and similar issues may also apply to HCWs infected with hepatitis C virus (HCV), although information about the nosocomial risks for transmission of HCV is very limited at this time. This position paper is also relevant to HIV-2, HTLV-I, HTLV-II and other bloodborne viruses that cause chronic infection. Throughout this statement, the term "blood" refers to blood and other hazardous body fluids as defined by the CDC.[11] These other hazardous body fluids include: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid and any other body fluid containing visible blood.

These proposals are intended primarily for application in the hospital or extended care facility, although they are also applicable to the outpatient setting. State or local statutes or union contracts may prohibit implementation of some of these proposals. We would appreciate learning of such obstacles. Perhaps accommodations to local laws and regulations can be addressed in a revised document.

Universal Blood and Body Fluid Precautions as originally set forth by the CDC[3,11] applied only to the management of the HIV-infected patient. The fundamental principle that all blood and hazardous body fluids must be considered infectious, regardless

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of the patient's diagnostic status, is inescapable and widely accepted. We believe that similar considerations apply to HIV-infected or potentially HIV-infected HCWs. There are, however, important differences between the situations of the HIV-infected HCW and the HIV-infected patient. The HCW cannot ethically or, in most jurisdictions, legally deny service to a patient because of the patient's HIV infection. The obligation of a patient to receive services from an HIV-infected HCW is less obvious. Blood transfers from HCWs to patients are far less common than the converse, and transmission of bloodborne pathogens from patient to HCW occurs with a much higher frequency than transmission from HCW-to-patient. The legal framework for considering HIV-infected patients is primarily one of discrimination law, whereas, in the HCW context, employment law must also be considered. Healthcare institutions face the potential for adverse publicity and lawsuits related to an HIV-infected HCW. Additionally, healthcare administrators must also consider forces that are driven by emotion and public sentiment, in addition to science or reason.

The issues surrounding the management of HIV-infected HCWs are quite complex, and are made more so by the lack of both relevant data and court precedent. For example, among the most perplexing (and most highly relevant) pieces of "missing" information are data regarding the magnitude of risk for HCW-to-patient transmission of HIV. Many such questions cannot be answered on the basis of factual evidence. For such questions, answers have been crafted based on our interpretation of: 1) clinical hospital epidemiologic/infection control experience and management of HIV-related problems in the healthcare setting since 1981; 2) experience with the implementation and interpretation of prior recommendations and guidelines, including those issued previously by the United States Public Health Service (USPHS)[1-3,11-14]; and 3) other models of bloodborne infections in the healthcare setting (i.e., the HBV model). Despite our best efforts, in the absence of solid scientific evidence, consensus-building is difficult, and some issues simply cannot be resolved at this time.

This position paper is organized as a series of issues formulated as questions. In an effort to confront the issues, the Task Force attempted to frame each question in the most challenging way possible. Background information is provided and arguments related to a consensus proposal presented. The questions and discussion are organized into four general sections. An outline follows.

OUTLINE

I. Practice Issues

A. Should HIV-infected HCWs be allowed to practice?

B. Should the practice of HIV-infected HCWs be restricted, and, if so, using what specific guidelines?

C. How should HIV-infected HCWs be managed?

1. Should additional education/training be mandated; and, if so, how can this be accomplished while maintaining HCW confidentiality?

2. Should HIV-infected HCWs be subject to a specific monitoring program; and, if so, how should monitoring be effectively accomplished, while still maintaining HCW confidentiality?

3. Are there special information management practices healthcare institutions should use to maximize the privacy/confidentiality of HIV-infected HCW staff?

a. Should healthcare institutions have special procedures for the management of the medical records of an HCW who has HIV infection or another medical problem?

b. Should healthcare institutions have special procedures for the internal disclosure of information about HIV-infected HCWs practicing at the institution?

c. Should healthcare institutions have special procedures for making public statements regarding HIV-infected HCWs?

D. Does the increasing potential for opportunistic infection associated with progression of HIV infection require further modification or restriction of an HIV-infected HCW's activities?

II. Disclosure Issues

A. Are there any routine medical settings in which an HIV-infected HCW should be routinely required to notify patients of their HIV status; and, if so, what are the specific types of circumstances requiring notification?

B. How should an HCW respond to a direct inquiry about his/her (or another HCW's) HIV infection status?

C. Do coworkers have a need or right to know the infection status of HCWs who are infected with bloodborne pathogens?

III. Exposure Management

A. How should an HCW-to-patient blood or other hazardous body fluid exposure be managed?

1. Should the HCW source of a patient exposure be required to undergo HIV testing?

2. Should an inadvertently exposed patient be notified of the exposure?

3. Should an inadvertently exposed patient be required to have baseline serologic testing?

4. How should an inadvertently exposed patient be followed?

IV. Testing Issues

A. Should all HCWs be routinely tested for HIV infection?

B. Are there any specific instances or circumstances (e.g., job classifications, medical tasks, etc.)

in the healthcare setting in which HIV seronegativity should be considered a prerequisite; and, if so, should mandatory HIV screening programs be instituted for the relevant HCWs?

SECTION I. PRACTICE ISSUES

I.A. Should HIV-infected HCWs be allowed to practice?

Background and Rationale

Based on the epidemiology of other bloodborne pathogens (in particular, the nosocomial epidemiology of HBV), the rare occurrence of HCW-to-patient transmission of HIV is expected. Whether the recent report of possible transmission from a dentist to a patient represents the first such documented case is irrelevant.[18] The occurrence of a single case, or even of rare epidemiologically unrelated cases, of HCW-to-patient transmission of HIV should not be the basis upon which policy is drawn. Rather, such policy decisions should be based on the thorough consideration of the risks for HCW-to-patient transmission provided by: 1) studies of HBV-infected HCWs and their patients[19-21]; 2) studies of HIV-infected HCWs and their patients[22-25]; and 3) ten years' experience with HIV infection, including experience managing HIV-infected HCWs in the workplace following existing USPHS guidelines.

It is inescapable that very rare instances of HCW-to-patient transmission will occur. However, the conclusion that the magnitude of risk for HCW-to-patient transmission of bloodborne pathogens is extremely small (and presumably well below the limits of our ability to measure or detect) is strongly supported by the currently available evidence. Since any HCW-to-patient transmissions of blood-borne pathogens will likely occur only in very narrowly defined circumstances, broad proscriptions of clinical practice are clearly unwarranted.

Proposal

All blood and hazardous body fluids (from patients and HCWs) must be regarded as potentially infectious. Transfers of blood or hazardous body fluids from HCWs to patients must be avoided. HIV-infected HCWs should not be broadly prohibited from participating in patient-care activities on the basis of their HIV infection status.

I.B. Should the practice of HIV-infected HCWs be restricted, and, if so, using what specific guidelines?

Background and Rationale

The best epidemiologic evidence bearing on the risk of HCW-to-patient transmission of HIV is the experience with HBV.[21,26] Over the last 20 years, worldwide, there have been at least 19 outbreaks of HCW-to-patient HBV transmission (Shapiro CN, CDC, personal communication; 1990). These outbreaks suggest a risk for HCW-to-patient HBV transmission associated with vaginal hysterectomy, oral surgery, major pelvic surgery and cardiac surgery. In addition, these outbreaks suggest an increased risk for HCW-to-patient transmission of HBV from HCWs who are chronically infected with HBV and have chronic dermatitis on their hands. Despite these 19 reported outbreaks of HBV infection, the magnitude of risk for HCW-to-patient HBV transmission must be quite small, considering that estimates suggest that there are probably at least 4,000 HCWs in the United States who perform invasive procedures who are also HBV carriers (Shapiro CN, personal communication; 1990).

The procedures most frequently implicated in outbreaks of HCW-to-patient transmission of HBV involve by-feel manipulation of needles or other sharp objects not under direct visualization. Based on their expertise, professional organizations and societies should be encouraged to identify specific procedures associated with an elevated risk for blood transfer from providers to patients. These organizations should encourage the development of techniques to minimize the by-feel manipulation of sharp instruments, and modifications of these procedures should be evaluated. A concerted effort by government, industry and professional societies to develop safer practices and devices to minimize the bidirectional transfer of blood is urgently needed. Examples of possible practice modifications include use of wire-mesh gloves, exclusion of persons in training from particular activities, avoidance of direct passage of sharp instruments by using a tray, use of electrocautery in place of sutures, etc. None of these modifications has, as yet, been proven to reduce transfers of blood or body fluids. Furthermore, it is possible that some of these modifications could be disadvantageous to patients.

Since 1983, the USPHS has stated that HBV-infected HCWs need not be restricted from discharging patient-care responsibilities, unless there is evidence of disease transmission.[17,26] The USPHS has also sanctioned the return to practice, under controlled conditions, of HCWs who have transmitted HBV to their patients.[26] There are, however, some differences between HBV and HIV that may limit the value of their comparison: 1) the mononucleosis-like syndrome associated with acute HIV infection is less distinctive than the syndrome associated with acute HBV infection; 2) the incubation period prior to the development of the clinically more distinctive manifestations of HIV infection (i.e., AIDS) is quite long when compared with HBV; 3) although HBV is a highly fatal condition for a common human pathogen (1% to 2% of those infected ultimately die of HBV infection or its complications), HBV is much less frequently fatal than HIV. Conversely, HIV appears to be transmitted at a substantially lower rate than is HBV. Nonetheless, even with these limitations in mind, the HBV model remains the most relevant.

In most instances HIV infections in HCWs come to the attention of hospital officials when the infected HCW has sought medical care or entered research protocols being conducted in the HCW's institution. Other HIV-infected HCWs have spontaneously sought consultation about HIV transmission potential. If HIV infection is confirmed in an HCW, the infected HCW should be offered support and counseling. When the HIV-infected HCW performs procedures that have been epidemiologically implicated in the transmission of HBV, these HCWs strongly should be urged to receive counseling regarding techniques to minimize the risk for HCW-to-patient transmission of HIV. As an extra level of precaution, we advocate that HCWs who are infected with transmissible bloodborne pathogens be counseled to avoid performing the small subset of procedures associated with an increased risk for provider-to-patient blood exposures as suggested by experience with HBV. This counseling should be conducted by individuals knowledgeable about both the transmission/transmissibility of HIV as well as the invasive procedure(s) under consideration.

The potential extension of the voluntary actions described above to more coercive procedures was the most contentious issue facing the Task Force. What should a hospital do, if, in the most extreme instance, an HIV-infected HCW refuses to voluntarily forego performing a procedure that has been epidemiologically associated with an increased risk for HCW-to-patient HBV transmission? Whereas some hospitals have established policies proscribing the performance of a small subset of procedures by HIV-infected HCWs, separating those procedures from all others is extremely difficult. Ultimately, a majority of the Task Force concluded that the uncertainties about the risk for HCW-to-patient HIV transmission were so great and the information available suggests that the risk is so small—even for the most hazardous procedures—that mandatory proscriptions could not be justified. Furthermore, the Task Force unanimously agreed that such mandatory proscriptions would reduce the likelihood that an HIV-infected HCW who performs these procedures would voluntarily come forward for counseling. Thus, endorsement of these proscriptions would likely necessitate an endorsement of a mandatory testing program for those HCWs who perform these procedures (see section IV.B.)—an outcome the Task Force felt far out of proportion to the magnitude of risk.

Most HIV-infected HCWs are asymptomatic; however, HIV-infected HCWs may become impaired (i.e., their mental or physical condition may interfere with their abilities to perform their assigned tasks). We favor a comprehensive approach to the issue of modifying or restricting impaired HCWs' practices, and favor viewing HIV infection in the broader context of all institutional health and credentialing programs. Such an approach allows the assessment of HIV risks in appropriate perspective. Thus, reasons for broadly restricting or even prohibiting practice should be based on: 1) medical conditions resulting in HCW incompetence (i.e., inability to perform assigned tasks); 2) documented untoward events (i.e., an HCW known to transmit HBV, HCV or [in the rarest instance] HIV); 3) HCW refusal to follow established guidelines to prevent transmission of infectious diseases; 4) HCW inability to perform regular duties; and 5) susceptibility to and/or increased risk of transmitting secondary infectious diseases.

Proposal

HIV infection, per se, does not constitute a basis for barring an HIV-infected person from any patient care activity, including invasive procedures. However, HCWs who are known to have chronic transmissible bloodborne infections should be counseled to avoid procedures that have been epidemiologically linked to the transmission of HBV or other bloodborne infections voluntarily. Healthcare institutions should develop comprehensive occupational health programs to manage impaired HCWs, including evaluation of workers' fitness for duty based on competence, ability to perform routine duties and compliance with established guidelines and procedures.

I.C. How should HIV-infected HCWs be managed?

I.C.1. Should additional education/training be mandated; and, if so, how can this be accomplished while maintaining HCW confidentiality?

Background and Rationale

A specific education and certification program for HIV-infected HCWs has the advantage of enabling the institution to assert that it has taken some concrete steps to minimize the risks associated with provision of care by HIV-infected HCWs. Such a program would require that HIV-infected HCWs meet with a knowledgeable person (e.g., an occupational health service or infection control program staff member) to review the mechanisms of HIV transmission and the appropriate interventions to minimize the risks for transmission in the healthcare setting. The counselor would evaluate the understanding of the HCW and, if satisfactory, formally certify that the HCW has an adequate understanding of the appropriate preventative techniques. Such a program, if carried out with careful attention to the HCW's privacy and confidentiality (an essential part of any occupational-health program), should present no disadvantage to the HIV-infected HCW. Based on current assessments of the magnitude of risk for HCW-to-patient transmission of HIV and the small number of plausible mechanisms for HCW-to-patient transmission of HIV, however, a mandatory educational program for HIV-infected HCWs is probably not justified. All HCWs should have a high level of understanding of the methods to prevent HIV transmissions and should apply them in all circumstances. Furthermore, an institution's comprehensive infection control program should include education for all HCWs on the importance of avoiding HCW-to-patient blood transfers.

Proposal

Required participation of HIV-infected HCWs in an HIV-specific educational program is not justified. Good infection control practices mandate the inclusion of an emphasis on the value of techniques for avoiding HCW-to-patient blood transfers in comprehensive educational programs.

I.C.2. Should HIV-infected HCWs be subject to a specific monitoring program; and, if so, how should monitoring be effectively accomplished while still maintaining HCW confidentiality?

Background and Rationale

A wide variety of conditions can reduce the mental and physical capacities of HCWs. Programs should be in place to monitor impairments resulting from any cause. If an HCW is identified as having a physical or mental condition that may ultimately lead to a decreased level of competence, a comprehensive occupational health program must include a mechanism for periodic assessment of such an HCW. The occupational health clinician should establish (with the HCW's approval) liaison with the potentially impaired HCW's care provider in order to stay informed about the status of the potentially compromising condition. Whereas, HIV- (or other disease-) specific monitoring programs are difficult to accomplish without risk for compromises in HCW privacy, an occupational health service must be able to manage such a program without compromising HCW confidentiality. Occupational health services bear responsibility for not violating the privacy and confidentiality of their clients.

Proposal

No special monitoring efforts are needed for HIV-infected persons; however, with the HCW's consent, the occupational health service should initiate contact with the care provider of any HCW who has a condition associated with risk for compromised competence. Contact should be made with the provider as needed to assess the progress of any of these medical conditions.

I.C.3. Are there special information management practices healthcare institutions should use to maximize the privacy/confidentiality of HIV-infected HCW staff?

I.C.3.a. Should healthcare institutions have special procedures for the management of the medical records of an HCW who has HIV infection or another medical problem?

Background and Rationale

In many institutions, information about HIV infection and HIV-related laboratory results of HCWs is managed similarly to other patient information. Healthcare institution information systems are designed to provide rapid and widespread access to patient information within the institution. In the course of providing occupational health services, many institutions use standard patient medical records, even though the HCW may not be receiving general healthcare at the institution. In some institutions, clinical information and laboratory results obtained through the occupational health service are managed as are other patient results, including entry into the computer system. Any HCW who has medical information present in his or her own medical record that has been entered into the institution's computer is at risk from inadvertent disclosure or inappropriate prying by a curious coworker. For these reasons, many HCWs prefer to receive healthcare at institutions other than their own workplace. These considerations justify efforts to preserve HCW privacy beyond those afforded to other patients.

Incident reports and workers' compensation claims also have the potential to compromise HCWs' privacy Incident reports are generally seen by occupational health service personnel, the HCW's supervisor, quality assurance personnel, personnel involved in their distribution and others. In most institutions, an incident report would be filed at the time of significant exposure but not again if the exposure is recognized as causing a transmission. State laws are generally ambiguous as to the time requirements for filing workers' compensation claims related to infection. Such claims may be filed at the time of exposure, at the point an HIV transmission is recognized, or at the time HIV-related illness occurs. In most healthcare institutions, these claims are not filed at the time of exposure unless a healthcare bill is generated (e.g., for an emergency room charge for an HCW who is seen off-hours or for a research worker who is not covered by occupational health services). Workers' compensation claims are seen by the HCW's supervisor, personnel office workers and billing office personnel. These reports and claims have the potential to compromise privacy because they may contain information establishing HIV exposure, reveal a baseline HIV infection or identify occupationally-transmitted HIV infection.

The obligation to maximize privacy about an HCW's HIV infection is increased if a pre-existing

HIV infection is identified either in the course of management of a significant blood or body fluid exposure or through another institutional program. The obligation may be perceived to be greatest if the HIV infection resulted from occupational exposure. In some healthcare institutions in which an occupational transmission has occurred, the information has become widely known within the institution within a day or two after the transmission was recognized. Maintenance of an HCW's privacy and confidentiality is a primary component of any occupational health program.

Proposal

Healthcare institutions, workers' compensation programs and insurance providers must undertake special efforts to maximize the privacy and confidentiality of HCWs. When an HCW is receiving occupational health support at the institution where he/she works, every effort must be made to segregate his/her occupational health records from routine hospital medical records, including exclusion of information about the HCW's condition from the institutional computer system.

I.C.3.b. Should healthcare institutions have special procedures for the internal disclosure of information about HIV-infected HCWs practicing at the institution?

HIV infection is such an emotion-laden issue that information about an HIV-infected HCW may spread rapidly within an institution. After an HCW discloses an HIV infection to his/her supervisor or coworker, absent specific policy, the supervisor's reaction may be to pass the information up the chain of command. There may be several lateral transfers of information as well.

Proposal

The institution must place the highest premium on the maintenance of HCW privacy. Institutional policy should explicitly specify which personnel, if any, need to be aware of an HCW's HIV infection in varying situations. In most situations, very few coworkers have a need to be aware of an HCW's medical problems. Supervisors and others should have explicit instruction that no additional persons should learn about the infection without the infected HCW's expressed permission.

I.C.3.c. Should healthcare institutions have special procedures for making public statements regarding HIV-infected HCWs?

Proposal

A healthcare institution must place the highest premium on the maintenance of HCWs' privacy. Institutional personnel should not disclose specific information, including presence, absence or precise numbers of HIV-infected HCWs, because disclosure of such information may lead to inadvertent breaches of confidentiality.

I.D. Does the increasing potential for opportunistic infection associated with progression of HIV infection require further modification or restriction of an HIV-infected HCW's activities?

Background and Rationale

Most of the HIV-associated opportunistic pathogens: 1) are not transmitted from person-to-person (e.g., *Toxoplasma gondii*, *Mycobacterium avium* complex and *Cryptococcus neoformans*); 2) are transmitted from person-to-person, but all humans are repeatedly exposed and/or colonized from infancy (e.g., *Pneumocystis carinii*) or 3) are transmitted from person-to-person, but require fecal-oral exposure (*Salmonella*, *Cryptosporidium*, *Isospora*) or a major break in basic aseptic technique (e.g., cytomegalovirus, herpes simplex virus). The pathogens that remain are *Mycobacterium tuberculosis*, varicella-zoster virus (VZV), rubella virus and measles virus. Concerns have been raised both for immunosuppressed patients who might be at risk for acquiring infection from HCWs who have opportunistic infections and for immunocompromised HCWs who might acquire these infections in the course of routine patient-care activities.

Proposal

Institutional policy should prohibit all HCWs (irrespective of immune status) who are susceptible to VZV, rubella or measles from providing direct patient care to patients with active VZV infection, rubella or measles. Implementation of these proposals requires knowledge of every HCW's susceptibility to VZV, rubella and measles and expert counseling for HCWs susceptible to VZV, rubella or measles. Healthcare institutions should require that HCWs who have a chronic productive cough be evaluated for active tuberculosis. For all HCWs who have impaired cellular immunity, irrespective of the underlying cause, the index of suspicion for opportunistic infection should be high.

SECTION II. DISCLOSURE ISSUES

II.A. Are there any medical settings in which an HIV-infected HCW should be required to notify patients of his or her HIV status; and, if so, what are the circumstances requiring notification?

Background and Rationale

The American Hospital Association (AHA) bill of rights indicates that there should be disclosure of relevant information to patients,[27] and the American Medical Association (AMA) Council on Judicial Affairs also includes a general statement in favor of patient disclosure.[28] Societal trends toward patients' rights are strong, and most patients feel that they have a right to know if their physician or other HCW is HIV-infected.[29] Case law has generally concluded that informed consent includes disclosure of risks that may be perceived by patients as being important even if, by rational consideration, they are negligible.

These positions notwithstanding, we have concluded that a requirement for such disclosure would very likely require an HCW to abandon healthcare work—an unwarranted outcome in light of our current understanding of the risks for HCW-to-patient transmission of HIV. The conclusion that disclosure of HIV infection is not required has also been taken in a recent statement by a past chairperson of the AMA's Council on Ethical and Judicial Affairs.[30] Similarly, the USPHS concluded that disclosure of HBV infection should not be required.[17,26] In the absence of a adverse patient exposure to blood or blood-containing body fluids (discussed below), the risk for HCW-to-patient transmission is so small that it cannot be accurately measured, and the jeopardy to an infected HCW's career is so overwhelming that routine disclosure does not appear justified.

Proposal

With the exception of situations in which a patient has been clearly exposed to an HCW's blood or other hazardous body fluid, HIV-infected HCWs should not be required to disclose their HIV infection status to any patient.

II.B. How should an HCW respond to a direct inquiry about his/her or a coworker's HIV infection status?

Background and Rationale

If an HCW is asked about his/her (or another HCW's) HIV-infection status by a patient to whom he or she is providing care, the HCW should explain that, in the absence of a clear exposure to blood or hazardous body fluids, patients are at extremely low risk to acquire bloodborne infections. HCWs should be encouraged to provide an indirect answer to all such questions regarding their own or another coworker's health, and should be encouraged to refer such questions to the appropriate institutional management personnel. An institutional approach to questions regarding HCWs' HIV-infection status maximizes the privacy/confidentiality of HIV-infected HCWs.

Proposal

HCWs should be counseled to respond to questions about their own or a coworker's health or HIV-infection status indirectly, referring further inquiries to appropriate institutional management personnel.

II.C. Do coworkers have a need or right to know the infection status of HCWs who are infected with bloodborne pathogens?

Proposal

HCWs have no need to know the HIV, HBV or HCV infection status of coworkers.

SECTION III. EXPOSURE MANAGEMENT

III.A. How should an HCW-to-patient blood or hazardous body fluid exposure be managed?

III.A.1. Should the HCW source of a patient exposure be required to undergo HIV testing?

Background and Rationale

Should an HCW-to-patient blood exposure occur, the patient has a valid right to know the HCW's status with respect to infection with bloodborne pathogens for purposes of consideration of prophylaxis and to undertake steps to avoid subsequent transfers of bloodborne pathogens. Even in institutions in which patient source testing after patient-to-HCW exposure is voluntary, there are differences in the HCW-to-patient context: 1) there is a greater responsibility of HCWs to their patients than the converse; 2) the patient rarely has any personal responsibility for an HCW-to-patient exposure; and 3) healthcare institutions have limited power to compel patients in any matter.

Healthcare institutions electing to develop policies that compel source testing should apply such policies only to exposures for which HIV or HBV precedent establishes that HIV transmission could occur. Voluntary testing might be encouraged in more marginal exposures. Although we support the principle, compulsory testing of source HCWs as a condition of further employment or receipt of credentials may not be possible in certain jurisdictions or because of negotiated contracts. Other sanctions, such as reprimands, denial of promotion, etc., should be considered.

Proposal

An HCW who knows that he/she is the source of a significant patient exposure to his/her blood or other hazardous body fluid is ethically obligated to undergo testing for infection with bloodborne pathogens. Healthcare institutions should develop specific policies to deal with such exposures and consider establishing sanctions for source HCWs who refuse testing for bloodborne pathogens. Such policies should be formally drawn and approved by institutional attorneys and governing boards.

III.A.2. Should an inadvertently exposed patient be notified of the exposure?

Background and Rationale

Since patients sustaining such exposures are at risk for acquiring bloodborne infections, patients should always be notified of such occurrences. Needlestick transmission of HBV, non-A, non-B hepatitis[31] and HIV infection have all been amply documented. Since even negative serologic tests do not completely eliminate the risk for transmission of bloodborne pathogens, any blood exposure creates a requirement for notification of the exposed patient. Notification also allows the exposed patient to have the option of receiving recommended postexposure chemoprophylaxis or immunoprophylaxis. Institutions should designate a responsible person for informing an exposed patient and assuring patient follow-up. Ultimate responsibility for follow-up should be assigned to the patient's physician—even if he or she is the source. In light of the potential for conflict of interest, however, the hospital epidemiologist, infection control practitioner or other staff who are knowledgeable about the risks and routes of transmission of bloodborne pathogens as well as the counseling of individuals exposed to bloodborne pathogens should also be notified and be available for support and consultation.

Proposal

Institutions should establish policies requiring self-reporting to the infection control program or occupational health program and to the exposed patient's primary physician of HCW-to-patient blood or body fluid exposure.[2] Irrespective of the mechanism for reporting, the exposed patient and his or her physician should be notified whenever HCW-to-patient blood or blood-containing body fluid exposure has occurred. The exposed patient need not be notified of the source HCW's name or of the exact circumstances of the exposure, but should be provided enough information to understand the implication of the exposure fully. The exposed patient should: be promptly notified about the exposure; subsequently be notified of the outcome of the source HCW's HIV, HBV and HCV tests; receive expert counseling regarding the implications of the event; be offered effective postexposure prophylaxis; and receive appropriate long-term medical follow-up.

III.A.3. Should an inadvertently exposed patient be required to have baseline serologic testing?

Background and Rationale

Although the exposed patient cannot be compelled to, and may clearly choose not to, have such testing performed, such testing would help establish the basis (and some of the best evidence) for a claim against the institution and/or the practitioner. Exposed patients should be made aware of the potential value and detriment of negative and positive tests. For patients refusing testing, institutions should attempt to obtain informed consent from the patient to allow the institution to preserve a carefully annotated baseline serum sample from the exposed patient. Although such samples cannot be tested against the patient's will, these samples ultimately represent important evidence in such a case. Patients refusing to consent to serum storage should be asked to sign a form noting their declination for both serologic testing and serum storage.

Proposal

The exposed patient and his/her physician should be asked for consent to perform baseline testing for bloodborne infections. If consent is obtained, the patient's serum should be assayed for serologic markers of HBV, HCV and HIV infection. If the patient refuses testing, the institution should ask the patient's permission to store available base-line serum from the patient. If the patient refuses both testing and serum storage, the patient should be asked to sign a formal declination.

III.A.4. How should an inadvertently exposed patient be followed?

Proposal

Exposed patients should be counseled regarding the risks for infection and the symptoms of acute HIV, HBV or HCV infection, should be offered effective postexposure chemo- and/or immunoprophylaxis and should be followed in a manner analogous to the existing guidelines for HCWs who sustain occupational exposures to HIV or other bloodborne pathogens. Patients should also be encouraged to seek additional follow-up should later symptoms suggestive of acute bloodborne infection occur.

SECTION IV. TESTING ISSUES

IV.A. Should all HCWs be routinely tested for HIV infection?

Background and Rationale

A strong case can be made that it is to the advantage of HIV-infected persons to know of their HIV infection, thus affording the infected individual the opportunity of enhancing his/her own healthcare. However, we examine here situations in which healthcare employment may establish additional bases for HIV testing. Rationales for testing may be ethical, legal, financial (e.g., to strengthen a workers' compensation claim) or protection of the institution. In the situations under consideration in this position paper, the test results would, of necessity, become known to persons other than the tested HCW and his or her own healthcare-giver.

Any discussion of HIV testing must include specification of the distribution of the HIV test results. To justify any degree of coercion, one must establish that the test outcome would produce contingent change and that the benefit from the change outweighs the compromise to privacy resulting from the distribution of the test results.

Virtually all groups have opposed routine HIV screening of broad HCW groups for infection control purposes, and, with the exception of specific instances in which testing should be required following an adverse exposure, we know of no evidence that argues strongly to the contrary.

Proposal

HCWs need not be routinely screened for HIV infection; however, HCWs who have community or occupational exposures to HIV should be encouraged to seek careful serologic follow-up for these exposures.

IV.B. Are there any specific instances or circumstances (e.g., job classifications, medical tasks, etc.) in the healthcare setting in which HIV seronegativity should be considered a prerequisite; and, if so, should mandatory HIV screening programs be instituted for the relevant HCWs?

Background and Rationale

The Task Force concluded that the information now available does not constitute an adequate basis for mandatory proscription of any activity by an HIV-infected HCW (see section I.B). Accordingly, no mandatory HIV screening program is warranted.

No evidence is available regarding the institution and implementation of mandatory screening programs for HCWs, and there are a number of substantive impediments to the successful implementation of such a program for HCWs. For most other types of screening programs (e.g., drug screening), urine that is screened is easily obtained; HIV testing requires phlebotomy. Institution of other kinds of screening programs has uniformly led to protracted litigation, and programs have not been implemented without a clear demonstration of societal benefit. Mandatory screening programs are also intrinsically adversarial. Implementation of such a program would require such cumbersome procedures as: picture identification cards; intrusive techniques to prevent blood tube substitution; extensive procedures to maintain confidentiality and recurrent testing at defined intervals. Finally, no HIV screening program is risk-free. The sensitivity of HIV antibody testing is unknown but is clearly not 100%. Incident infections will not be detected until subsequent tests are performed.

Proposal

Mandatory HIV screening of HCWs is not warranted. An HCW who knows that he/she is the source of a significant patient exposure to his/her blood or hazardous blood/body fluid is ethically obligated to undergo testing for infection with bloodborne pathogens.

This position paper was drafted by joint committee of the Association for Practitioners in Infection Control and the Society of Hospital Epidemiologists of America. Several persons have reviewed this paper, including: (from SHEA) Dennis Maki, Glen Mayhall and Walter Hierholzer; and (from APIC) Elizabeth Horan, Barbara Russell, Steven Weinstein and Elizabeth Bolyard. The final draft was approved by the executive committees of both organizations. This consensus statement represents the positions of these organizations on these controversial issues, and does not represent the opinions of the individual contributors to the document or of individual members of each of the organizations.

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HIV-Infected Physicians and the Practice of Seriously Invasive Procedures

by Lawrence Gostin

The practice of HIV-infected physicians who perform seriously invasive procedures calls for professional guidance to protect patient safety and the privacy of infected physicians.

AIDS is increasingly being viewed as an occupational disease for physicians despite the evidence that human immunodeficiency virus (HIV) is exceedingly hard to transmit in health care settings.[1] Physicians who carry out seriously invasive procedures claim the "right to know" whether their patients are infected with HIV, including the right to screen patients for the virus.[2] Some hospitals, irrespective of what the law may allow, already screen their patients without specific informed consent.[3]

Conversely, patients undergoing seriously invasive procedures claim the right to know if their physician is infected with HIV. Eighty-six percent of a Gallup Poll sample taken in 1987 said patients should be told if their physician has AIDS.[4] Most patients would choose not to receive treatment from an infected physician. Their case has been buttressed by a policy statement from the American Medical Association that "a physician who knows that he or she is seropositive should not engage in any activity that creates a risk of transmission of the disease to others."[5] Presumably this advice would extend to other health care workers involved in performing seriously invasive procedures. If it is wrong for infected physicians to treat patients invasively, does this create a correlative duty on the part of hospitals to screen physicians before they carry out such treatment? The prospect of a "right to know" the health status of both doctor and patient, with calls for screening on both sides, together with the potential of litigation for avoidable transmission of HIV, undermine trust within the health care system.

The concept of a "right to know" the serologic status of physician or patient is misplaced. Information that a patient is HIV positive is of very limited use to the physician. Physicians have a professional,[6] if not a legal,[7] responsibility to treat infected patients. It is usually not possible to utilize *different* methods for treating HIV-positive patients to reduce the risk of contracting the infection; and in some cases different methods could result in prolongation of operative time, potentially having an adverse effect on the patient. Further, the Centers for Disease Control recommends,[8] and the Occupational Health and Safety Administration requires,[9] the universal application of barrier protection in all cases of exposure to blood. Information that a patient is HIV-positive should not significantly affect the precautions taken in most cases.[10]

Patients, on the other hand, clearly would act upon the knowledge that their physicians were infected with HIV, and when they could choose many would not opt for a physician who is infected with HIV. However, it is not always reasonable for the patient to expect this information. The certain consequence of informing patients that their physician is HIV-positive would be the abandonment of the physician's practice.

This article, therefore, does not make a case for a patient's "right to know." Rather, it argues that the risks inherent in seriously invasive procedures are sufficient for the profession to take patient safety seriously, even before the first case of HIV-transmission to a patient occurs. Professional guidance is required to identify the circumstances where a physician should withdraw from performing certain seriously invasive procedures. This conclusion is based upon the doctrine of informed consent and evolving standards of professional care. Failure to take appropriate preventive action now may result in policies that are overly restrictive. For example, Cook County Hospital already has a policy of

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allowing patients to refuse to be treated by HIV-positive physicians who "routinely provide direct patient care."[11] The policy would appear to put the careers of infected physicians at risk even if they do not perform seriously invasive procedures. This article also makes the case for protecting the privacy of infected physicians and safeguarding against discrimination by their employers and others.

Risks of HIV Transmission in Health Care Settings

There has been no scrutiny of transmission of HIV from physicians to patients, and there is no recorded case where it has occurred.[12] This is not surprising since there has been no systematic attempt to discover which physicians are HIV positive. But there has been careful examination of transmission from patient to health care worker,[13] and some indication of the level of risk in both directions can be ascertained. The possibility of transmission in health care settings has been demonstrated by approximately sixteen cases where health care workers seroconverted from occupational exposure to HIV.[14]

The sixteen reported cases of occupational exposure to HIV appear insignificant given the frequency of contacts between health care workers and HIV-infected patients. Several prospective studies show there is a risk in the range of 0.03 to 0.9 percent that a health care worker will contract HIV following a documented case of percutaneous or mucous membrane exposure to HIV-infected blood.[15] This is relatively low compared to the risk of 12 to 17 percent seroconversion after accidental percutaneous injection from patients with hepatitis B, even after passive immunization of recipients by immune serum globulin.[16]

Physicians performing seriously invasive procedures, such as surgeons, have a potential to cut or puncture their skin with sharp surgical instruments, needles, or bone fragments. Studies indicate that a surgeon will cut a glove in approximately one out of every four cases,[17] and probably sustain a significant skin cut in one out of every forty cases.[18] Given these data, it has been calculated that the risk of contracting HIV in a single surgical operation on an HIV-infected patient is remote—in the range of 1/130,000 to 1/4,500.[19]

It is impossible accurately to calculate the level of risk of HIV transmission from surgeon to patient. Surgeons who cut or puncture themselves do not necessarily expose the patient to their blood, and even if they do the volume is extremely small. A small inoculum of contaminated blood is unlikely to transmit the virus.[20] This suggests that the risk of infection from surgeon to patient is much lower than in the opposite direction. Nonetheless, the fact that the surgeon is in significant contact with the patient's blood and organs, together with the high rate of torn gloves, makes it reasonable to assume that the risk runs in both directions, as is the case with the hepatitis B virus. The cumulative risk to surgical patients, arguably, is higher. While an HIV-infected patient is likely to have relatively few seriously invasive procedures, the infected surgeon, even if the virus drastically shortens his surgical career, can be expected to perform numerous operations. Assuming that the surgical patient's risk is exceedingly low (1/130,000), the risk that one of his patients will contract HIV becomes more realistic the more operations he performs—1/1,300 (assuming 100 operations) or 1/126 (assuming 500 operations). Patients, of course, cannot expect a wholly risk-free environment in a hospital. But there does come a point where the risk of a detrimental outcome becomes sufficiently real that it is prudent for the profession to establish guidelines.

Patient Treatment Decisions

The doctrine of informed consent can help clarify the physician's duties toward his patient. In many jurisdictions, the law of informed consent lays down a patient-oriented standard for the information that must be disclosed by the physician.[21] It is for the patient to assess the risk and to determine where his or her interests lie. If the risk would be intolerable for the reasonably prudent patient he or she is entitled to make that judgment, however unwise the assessment of relative risk is in the eyes of the medical profession.[22] Courts, therefore, require the physician to provide all information that a reasonable patient would find relevant to make an informed decision on whether to undergo a medical procedure.[23] Risks that are relevant or "material" depend upon their severity, the probability that they would occur, and the circumstances under which they would be endured.[24] As the severity of a potential harm becomes greater the need to disclose improbable risks grows, though courts have yet to assign a threshold for the probability of a grave harm beyond which it must be disclosed.[25]

A reasonably prudent patient would find information that his physician is infected with HIV material to his decision to consent to a seriously invasive procedure because the potential harm is severe and the risk, while low, is not negligible. Moreover, he can avoid the risk entirely without any adverse consequences for his health: By choosing another equally competent physician (where available) he can obtain all the therapeutic benefit without the risk of contracting HIV from his physician. The patient, then, can demonstrate not only that the information is material to his decision, but that he would have made a *different* decision had he been given the facts.

Courts have usually been concerned with risks inherent in the treatment, rather than risks associated with a physician's physical condition or skill. Although courts have required disclosure of risks as low as 1 percent or less, [26] they have not required disclosure of risks that are simply unforeseeable—because no case has ever occurred, or the risk is minute (on the order of 1 in 100,000).[27] The risk of transmission of HIV in the ordinary physician/patient relationship where exposure to large amounts of blood is unlikely is too remote to be foreseeable. Nonetheless, the risks inherent in seriously invasive treatments may well reach the threshold where they become relevant to a rational assessment by the patient.

Courts have been highly consistent in elucidating valid reasons for nondisclosure, all ostensibly for the patient's therapeutic benefit.[28] Relevant information may be withheld when the treatment is necessary in an emergency[29] or is nonelective; the patient is incompetent[30]; or disclosure would be harmful to his psychological state.[31] Nondisclosure of a physician's seropositive status is not founded upon the patient's interests, however, but expressly on the physician's, particularly with respect to rights to privacy and confidentiality.

In *Piper v. Menifee* the court held that a physician was liable to the patient and his family when he failed to inform them that he was attending another patient infected with smallpox. The court held that "if a physician, knowing he has an infectious disease, continues to visit his patients without apprising them of the fact...[he] is guilty of a breach of duty."[32]

While few cases affirm the holding in *Piper*, there is ample judicial authority that a physician has a duty to notify third parties who might be exposed to his patient's contagious disease.[33] If a physician has a duty to inform and protect third parties, he owes at least as great a duty toward his own patients.

Yet the right to be informed of a physician's seropositive status requires a finely balanced assessment. There are limits to what society reasonably can expect of a physician in disclosing remote risks. The *Piper* case and more recent duty-to-inform cases involved more substantial risks of contracting disease. There are, moreover, many risks posed by the physician himself, such as inexperience in performing highly technical operations, that are not traditionally disclosed in modern medicine. Nevertheless, the increasing focus of modern law on the patient's rights should require a seropositive physician to withdraw from performing seriously invasive procedures if there is a significant risk to the surgeon's patients.

The Evolving Standard of Professional Care

A physician is expected in law to exercise the care ordinarily used by members of the medical profession in his specialty. Failure to exercise that standard of care is negligence, and a physician will be liable to his patient if harm results.[34] Most cases of medical negligence involve lack of due professional care in providing treatment, but in addition to *Piper* a few demonstrate that a physician may be negligent for continuing to practice when he knows, or reasonably should know, that his physical condition may pose a risk to the patient.

An oral surgeon paid a substantial settlement for transmission of hepatitis B to his patient, and through her to her husband and her child in utero.[35] The employing hospital of a potentially dangerous physician can also be held liable for allowing an infectious or incompetent physician to treat patients.[36]

Both the physician and hospital, therefore, may be negligent for treating a patient in circumstances where the professional standard of care is to refrain from practicing. There is little doubt that a malpractice case would succeed if adequate infection control guidelines had not been followed and, as a result, HIV was transmitted to the patient.[37]

What if HIV is transmitted even though all reasonable infection control procedures are followed? The outcome of a malpractice case would be uncertain. A court might well take cognizance of the fact that there has been no documented case of transmission of HIV from health care worker to patient,[38] and that Boards of Registration in medicine and individual physicians have made conflicting statements of principle.[39]

Nevertheless, the evolving standard of professional care is for an HIV-infected physician to refrain from performing seriously invasive procedures. Physicians have a special responsibility in practicing their profession because of the guardianship of their patients' health. The American Medical Association states that a

> physician who knows that he or she has an infectious disease should not engage in any activity that creates a risk of transmission of the disease to others...[P]atients are entitled to expect that their physicians will not increase their exposure to the risk of contracting an infectious disease, even minimally.[40]

The U.S. Public Health Service also recommends an individual assessment to determine whether an HIV-infected health care worker "can adequately and safely be allowed to perform patient care duties or whether their work assignments should be changed..."[41]

The American Hospital Association, state hospital associations and state public health departments have likewise acknowledged the risk of transmission of HIV from health care worker to patient in performing invasive procedures.[42] Each group has recognized the legitimacy of an individual determination limiting the practice of invasive procedures by HIV-infected physicians.

While the Public Health Service and professional medical associations have indicated that HIV-infected physicians may pose unacceptable risks for patients when they perform medical procedures, they have not identified those procedures. In each case HIV-infected physicians are told to seek advice and counseling from their personal physician, employing hospital, and colleagues to determine any restrictions on their practice of medicine. The AMA Board, for example, has said that "the decision must be determined on an individual basis founded on the opinions of the worker's personal physician and those of the medical directors and personnel health service staff of the employing institution."[43]

There is a need for national guidance on which procedures should be avoided by infected physicians. Clear guidance would help set a uniform standard of practice across the country; reduce the burden on individual physicians and hospitals to make difficult assessments of risk; prevent inconsistent practice in different hospitals and geographic regions leading to loss of patient confidence; and reduce the possibility of legal liability for infected physicians and hospitals that countenance allowing an infected physician to continue performing seriously invasive treatment. The absence of prospective guidelines issued by the medical profession could well result in undesirable retrospective standards laid down by the courts.

Physician Screening

If legal and public health policy require the HIV-infected physician to refrain from performing certain seriously invasive procedures, does the hospital have an obligation to screen physicians? The law holds physicians and hospitals accountable, not only for what they know, but for what they reasonably should know. If a physician has engaged in high risk behavior such as homosexual activity or sharing of needles, and failed to be tested or to make any disclosure to the hospital, the courts probably would put him in the same position as if he knew he were seropositive. Any other rule of law would provide an incentive for physicians to avoid being tested and counseled. The prudent course, then, is for physicians who are at increased risk for HIV to obtain confidential testing and counseling, and to inform the health care facility of a positive test result, before performing seriously invasive medical procedures.[44]

There is a need for national guidance on which procedures should be avoided by infected physicians. Clear guidance would help set a uniform standard of practice across the country; reduce the burden on individual physicians and hospitals to make difficult assessments of risk; prevent inconsistent practice in different hospitals and geographic regions leading to loss of patient confidence; and reduce the possibility of legal liability for infected physicians and hospitals that countenance allowing an infected physician to continue performing seriously invasive treatment.

Physicians who are not at increased risk for HIV or those who do not perform seriously invasive procedures have no legal or ethical obligation to be tested; and there should be no duty on health care facilities to screen them routinely. In such cases, the social, personal, and financial costs of a comprehensive screening program outweigh the public health benefit. The disadvantages of mandatory physician screening are similar to those in other low risk populations, and have been explicated elsewhere.[45]

A positive test result in a health care professional who is not in fact infected could have devastating personal consequences. A negative test result, moreover, does not guarantee that a physician is free from infection. There is a period of up to twelve weeks or longer before antibodies are produced and detectable after infection; or the physician could contract the virus at some future time, necessitating periodic retesting at considerable expense to the health care facility.

Systematic collection of highly sensitive health care data would place considerable burdens on hospitals. They would be required to keep the information confidential and could be liable for intentional or negligent disclosure.[46] Hospitals would also have to decide whether to disclose the information to patients or third parties under a duty to warn theory.[47]

The legal and ethical quandaries, therefore, posed for the hospital by systematic collection of the HIV status of all physicians would be disproportionate to any public health benefit. The medical literature is replete with documented cases of transmission of hepatitis B in health care settings,[48] and there are some one hundred health care worker deaths each year attributable to HBV. The risk of transmission and cumulative morbidity and mortality associated with HBV are greater than for HIV. Yet there is no systematic screening for HBV, and restrictions on the practice of invasive procedures often occur only after a physician has transmitted HBV (sometimes repeatedly).[49] If the case for screening for hepatitis B has never been sustained, what new facts or data mandate screening for the AIDS virus?

Finally, a systematic program of screening for HIV among physicians might well violate constitutional protection of a person's right to be free from "unreasonable search and seizures." A blood test for HIV with important personal consequences, like a test for drugs or alcohol,[50] may infringe upon a person's "expectation of privacy."[51] In *Glover v. Eastern Nebraska Community Office of Mental Retardation*, a federal district court held that screening for HIV among certain employees in a mental retardation facility constituted unreasonable search and seizure because the risk to clients "is extremely low and approaches zero."[52] It is possible that the courts may find a greater public health interest in a screening program more narrowly focused on health care workers involved in seriously invasive procedures; yet any widespread screening policy is likely to be found unconstitutional.

An effective argument could be made that, once it is determined that HIV-positive physicians should refrain from seriously invasive treatment, it necessarily follows that they should be screened before performing such procedures. I do not accept, however, that screening is a logically necessary result. There are many well-accepted situations in modern medicine where legally and ethically it is advisable for physicians to restrict their medical practice but which do not require systematic screening. A surgeon with HBV, TB or who is drug or alcohol impaired should not continue to practice without the hospital's knowledge and review. It does not necessarily follow (nor might it even be constitutionally permitted) systematically to screen all surgeons for HBV, TB, drugs, and alcohol. Rather, I argue that a physician who knows, or ought to know, that he or she is HIV-positive, should voluntarily refrain from practicing seriously invasive procedures. The cost of such a professional rule is not prohibitive and can be ameliorated by transfer to other duties and by equitable compensation programs. However, the sheer social and personal burdens of systematic screening on physicians, hospitals, and the entire health care system substantially outweigh its public health benefit.

Consequences for the Physician

The standards developed thus far for HIV-infected physicians are strict and based upon prevention of even a minimal risk of transmission. If the physician is expected voluntarily to disclose his serological status to the patient and/or to refrain from performing certain seriously invasive procedures, he is entitled to protection from the consequences of his good faith actions. The right to practice medicine is "sufficiently precious to surround it with a panoply of legal protections."[53] Any public health policy on HIV-infected physicians, therefore, must ensure confidentiality and nondiscriminatory treatment including reasonable accommodation.

Confidentiality. HIV-infected physicians, like other seropositive individuals are concerned with maintaining confidentiality. Because the majority of physicians infected with HIV are members of risk groups subject to persistent prejudice and discrimination, unauthorized disclosure of their serological status can lead to social opprobrium among family and friends, and to loss of employment, housing and insurance. Consequently, physicians have strong grounds for desiring personal privacy and confidentiality of medical information. Their cooperation with the hospital in protecting against the spread of infections relies upon their trust that their serological status will be kept confidential.

Physicians have a right to confidentiality of intimate health care information based upon a number of legal grounds. First, physicians with HIV are treated by a personal physician and are entitled to the protection of confidentiality inherent in the physician/patient relationship. Second, employees have the right to expect that sensitive health care information will not be disclosed by their employers without their permission.[54] While health care employers may have a legitimate interest in knowing if a physician is HIV positive, they have no legitimate interest in disclosing this information to patients, other employees, or individuals or organizations outside of the hospital. Third, statutes in several states and municipalities specifically protect the confidentiality of HIV-positive test results. These statutes generally provide civil liability for disclosing the result of a serological test without the individual's written informed consent.[55]

Two cases establish the importance of confidentiality for the physician, at least against media disclosure to the general public. In *X. v. Y.* the British High Court issued a permanent injunction against a national newspaper publishing confidential information about a physician with AIDS. The court held that "the public interest in the freedom of the press and informed debate on AIDS was outweighed by the public interest in maintaining the confidentiality of actual or potential AIDS sufferers."[56]

In a similar case the *Miami Herald* filed suit against the Dade County Health Department and the hospital to gain access to the medical records and death certificate of a urologist. The newspaper's intention was to confirm that the urologist had practiced medicine for several years while he had AIDS. The court did not allow release of this confidential information,[57] basing its decision upon the state Public Records Act, which regards such information as confidential unless the person claiming the information has a "direct and tangible" interest in it.

Confidentiality for the HIV-infected physician not only safeguards his personal rights, but also is in the public interest.[58] The right to confidentiality will encourage physicians to disclose their serological status to their employers, and to seek counseling, treatment, and peer review of the safety of their continued medical practice.

Antidiscrimination. Discrimination against a physician because of his HIV status is just as repugnant as discrimination on other morally irrelevant grounds such as race or gender. The United States Supreme Court in *School Board of Nassau County v. Arline* condemned irrational prejudice based upon a person's infectious condition noting that:

> Society's accumulated myths and fears about disease are as handicapping as are the physical limitations that flow from actual impairment. Few aspects give rise to the same level of public fear and misapprehension as contagiousness.[59]

AIDS has been held to be a handicap within the meaning of section 504 of the Federal Rehabilitation Act of 1973 and similar state statutes.[60] The Civil Rights Restoration Act 1988 states that section 504 is applicable to a person with a contagious disease if he does not pose "a direct threat to the health or safety of other individuals or…who is unable to perform the duties of the job." The congressional history of the 1988 Act shows that the language "direct threat" embodies the standard of "significant risk of transmission" articulated by the Supreme Court in *Arline*.[61]

…a physician who knows, or ought to know, that he or she is HIV-positive, should voluntarily refrain from practicing seriously invasive procedures.

Physicians, then, have a right under federal and state handicap laws not to be denied the right to practice medicine or to be reassigned to an administrative position unless there is a significant risk of HIV transmission. Any limitation on the right of a physician to practice must be reasonably related to the achievement of greater patient safety. Narrow limitations on the practice of seriously invasive procedures may thus be found not to be discriminatory.

In *Doe v. Cook County Hospital* U.S. District Court Judge John A. Nordberg required the signing of a consent decree to protect an HIV-infected neurologist from unreasonable limitations placed on his right to practice.[62] The physician agreed to special surveillance; to double glove before performing invasive procedures; and not to perform three procedures—muscle biopsy, sural nerve biopsy and cerebral arteriography—formally a part of his credentialing, but which he had not performed in recent years. The judge, in language mirroring the *Arline* decision, held that future alterations in clinical practice could be permitted only if the physician posed "a significant health or safety risk to himself or others"; and, except in an emergency, the neurologist received seven days' notice of any alteration.

The Cook County Hospital case establishes the need for balance between a physician's rights and a patient's safety. Yet the concept of "significant risk" needs further clarification. "Significant risk" should be based upon epidemiologic evidence of the gravity of the harm and the probability of it occurring. A risk is significant if: the mode of transmission is well established, even if the risk is small; the potential harm is serious; and the public health intervention is efficacious and does not pose disproportionate burdens on individual rights. Withdrawal of an HIV-infected physician from performing seriously invasive procedures, provided the information can be kept confidential, does not pose an unbearable burden on the physician or the health care system. Reassignment to noninvasive procedures virtually eliminates any risk of harm.

The Cook County case also shows the futility of a case-by-case determination by courts of which medical procedures are sufficiently safe for an HIV-infected physician to perform. It is not the proper function of the courts to list a detailed set of allowed and prohibited medical procedures. The court's decision simply underlines the need for forward-looking professional guidelines to assess which medical procedures pose a risk to the health of patients.

The federal Rehabilitation Act requires employers to make reasonable accommodation for handicapped workers. Health care facilities should ensure that HIV-infected physicians have the opportunity for a wide-ranging clinical practice that is both professionally rewarding and remunerative. The professional guidance called for in this essay should reflect the rich variety of clinical practice infected physicians could safely engage in, ranging from internal medicine and psychiatry to pediatrics and neurology.

The right to confidentiality and antidiscrimination including reasonable accommodation for physicians should be viewed as a *quid pro quo* for the physician's good faith fulfillment of his or her special professional and ethical obligations. The physician has made a substantial human and financial investment in medical education. He is expected to provide treatment for HIV-infected patients despite the occupational risks. Given these special societal burdens on the physician, it is reasonable to protect his personal rights and professional livelihood.

Acknowledgment

The author would like to thank Deborah Cotton and Paul Cleary for their comments on earlier drafts of this article. A substantially expanded version of this article will appear in Lawrence Gostin, "Hospitals, Health Care Professionals and AIDS: The 'Right to Know' the Health Status of Professionals and Patients," *Maryland Law Review* 48:1 (1989).

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[25] See *Precourt v. Frederick*, 395 Mass. 689, 697 (1985). The development of law as to which risks are too remote to require disclosure must await future cases.

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Management Considerations for an HIV Positive Dental Student

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ABSTRACT—Health care workers who are HIV positive or who have AIDS are faced with unique and perplexing problems. Likewise dental students who are HIV positive present a special circumstance that demands review of ethical, legal, managerial, and medical considerations. The purpose of this paper is to describe the management considerations at the Medical College of Georgia following a recent report of an HIV positive dental student.

The administration assembled a diverse team of experts for advice in the situation. This group assumed that the circumstance was a potential crisis with possible serious long-term implications. Therefore detailed planning, appropriate announcements, and careful management have been the administration's principle goal for several weeks. The key management strategies and actions are described from the time of notification of the student's HIV antibody test results through the initial testing of the patient population subgroup.

KEY WORDS: AIDS, HIV, Students, AIDS Crisis Management

On November 29, 1990 the dean of the Medical College of Georgia School of Dentistry met with a student who had recently been tested for the human immunodeficiency virus (HIV) antibody. The test results were positive. This event precipitated intense activity in a relatively brief time. The management of events surrounding this report of an HIV positive dental student involves medicolegal, ethical, and public relations issues beyond those usually encountered in a dental school. Actions to avert a crisis or to diminish the impact were considered critical. The purpose of this article is to describe the events and actions associated with this incident.

Perspective

Scientists universally agree that the risk of transmission of human immunodeficiency virus from an infected health care worker to a patient is extremely low.[1] However, both the medical community and the public understand that when this low risk is realized, the outcome is catastrophic. Recent reports of probable HIV transmission from a dentist to patients in Florida have alarmed the public.[2,3] National attention has been directed to the possibility of a previously unrecognized mode of transmission from an HIV infected dentist to a patient.

By their nature, dental procedures are invasive. Needlestick and other injuries are frequent occurrences among health care workers performing invasive procedures. The apparent HIV transmission from an infected dentist to a patient is possible but the mechanism remains unexplained.[2] This uncertainty may lead to reassessment of professional guidelines for universal precautions to minimize the risk of disease transmission between health care providers and patients.[3]

Dental students regularly perform invasive procedures. Common sense dictates that an inexperienced student performing an invasive procedure is more likely to injure himself in the process than an experienced practitioner. Therefore, an HIV-infected dental student may pose a unique risk in a dental school environment.

Public sentiment, legislation, and professional attitudes may vary widely across the country. Educators, practitioners, professional associations, and ethicists debate the appropriate management of issues involving AIDS. American Dental Association guidelines in place at the time of the report recommended management on a case-by-case basis.[4-6] Within these guidelines, pending medical recommendations, the infected individual could continue to practice using barrier techniques or the individual could be required to avoid performing invasive procedures. The MCG administration agreed that the identification of an HIV positive student had crisis potential and elected to manage the circumstances with the extreme care demanded in a potentially volatile situation.

Initial Dilemma

A dental student being seen in the Student Health Clinic tested positive for the HIV virus. However, this situation warranted a legal dilemma for MCG and especially the physician director of the Student Health Clinic. Georgia law prohibits any health care worker (or other person) from disclosing any HIV related information about a patient without the patient's express authorization. Consequently, even though the director of Student Health knew a dental student was

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HIV positive and, therefore arguably a risk to the health of the student's patients, the director was legally bound to keep that information confidential until such time as the student authorized its disclosure. This posed an ethical and legal dilemma for the director of Student Health, who had to decide whether to follow the letter of the law and protect the identity of the student, thereby endangering (theoretically) the health of that student's past and present patients, or to disclose the student's identity to the dental school in violation of state law and accept the risk of lawsuit and even criminal prosecution. Fortunately, the student's decision to voluntarily disclose his HIV status to the School of Dentistry, as directed in MCG's policies, rendered this issue moot.

Initial Actions

Medical College of Georgia (MCG) policy requires that a student or staff person diagnosed with a communicable disease report this fact to the responsible administrators.[7] The student responded cooperatively and responsibly to this institutional policy and reported the test results. The dean immediately, but temporarily, suspended all the student's clinic activities pending further analysis of the situation. He then initiated discussions and analysis with the president of MCG, the associate dean for patient services and the institution's legal advisors. Only those people with an essential need to know were informed. Fewer than ten people on campus knew of the situation prior to public announcements. To no one's surprise, however, the number of people who needed to know in external agencies grew at a geometric rate in a brief time. There was therefore, a sense of urgency to prepare and act quickly so that announcements could be released as part of the school's agenda and, thus, viewed as proactive concern by the school, rather than as a reaction to external forces.

The dean appointed an ad hoc committee to evaluate the situation and develop a recommendation concerning the future activities of the student. The committee was chaired by the associate dean for patient services and included the institution's legal advisor, the hospital's chief of infectious diseases, and the hospital epidemiologist. This group reviewed the student's medical status, the student's academic status, MCG hospital and clinic policy, American Dental Association (ADA) guidelines, and consulted with staff at the Centers for Disease Control (CDC). The committee affirmed three concepts: 1) MCG clinic policy requires the reporting of an infectious disease and implementation of appropriate action; 2) the ADA policy suggests actions involving HIV infected dental health care workers should be determined on a case-by-case basis and should not endanger the patients or members of the dental staff;[7] and 3) the CDC officials are guided by the idea that policy implementation should address the best interests of the health care workers (HCW) and the patients. CDC is currently considering new guidelines for health care workers[3] and ADA has since released an interim policy.

The committee subsequently recommended the following:

1) The student should be permanently removed from patient care activities.

2) All patients previously treated by the student should be informed and offered the opportunity for HIV antibody testing and counseling at no charge.

3) Alternatives for attaining the graduation requirements should be considered to include simulation exercises or treatment of HIV positive patients.

MCG was, of course, aware of federal laws prohibiting discrimination against individuals on the basis of a handicap and we were also cognizant of the fact that persons who have AIDS are considered to be within the definition of a handicapped individual. Institutional representatives (i.e., MCG's physicians, dentists and others) evaluated the likelihood that the student could function in a clinical setting without posing a risk to patients. They discussed this issue with representatives of other dental schools, the ADA, and the CDC and their views confirmed our opinion. Especially given the recent case of a dentist in Florida who apparently transmitted HIV to patients in a clinical setting, we felt that the best medical evidence at the time dictated that this student could not practice safely and needed to be suspended from further clinic activities.

Every effort was made to maintain confidentiality about the HIV positive test results and the student's identity. As mentioned earlier, Georgia law prohibits MCG's disclosure of the student's HIV status without prior consent. The dean reviewed the ad hoc committee's recommendations with the president and determined that the recommendations were appropriate and their immediate implementation was indicated.

The Student's Input

The student was informed of the ad hoc committee's recommendation during a meeting with the dean and the associate dean for patient services. The student accepted the report and stated that the patients had a right to know and that he believed they should be informed. The student expressed the desire to complete the doctoral program, requested that the school explore possible alternative paths for graduation, and maintain his confidentiality. The institution agreed to accommodate the student's wishes to the extent possible.

The dean informed the student that alternative experiences and options to satisfy graduation requirements would be investigated. Even though every effort would be taken to assure confidentiality, the student was advised that after the notification of patients, discussions with departmental chairs, and directives to staff members it would be impossible to guarantee anonymity.

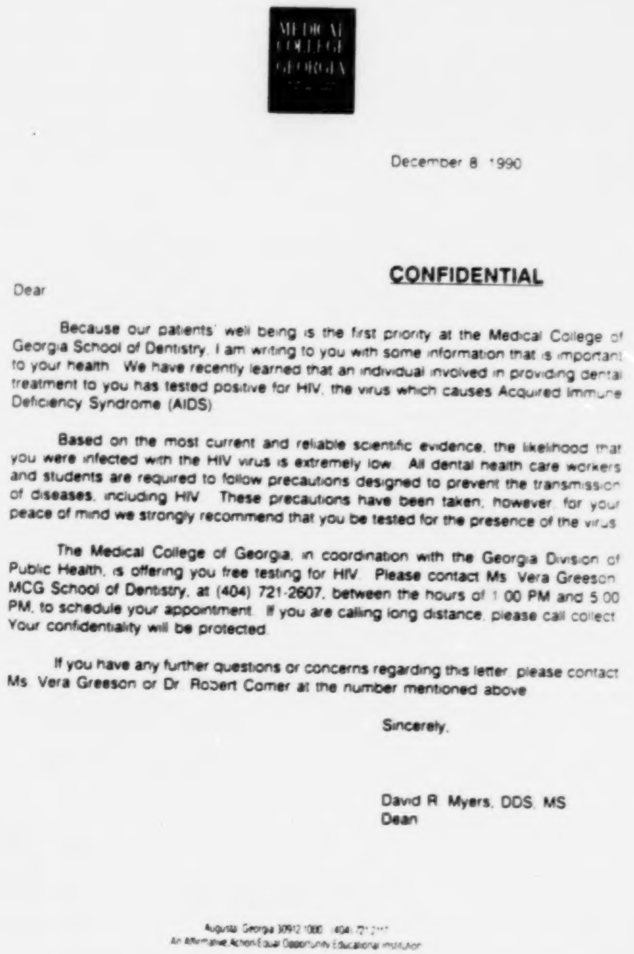
The school has made concerted efforts to protect the confidentiality of the individual. The school refrained from commenting on any attributes that may lead to de facto identification, e.g., class standing, sex, or race. The pronoun "he" has been used in the generic sense in all communiques. And, to date, there has been no public disclosure from any source.

Announcements

Prior to notifying the appropriate people, the administrators consulted with, and received support from, officials from American Association of Dental Schools (AADS), ADA, CDC, MCG administrators, MCG hospital staff, the Georgia Division of Public Health, other dental schools, and the infected student. Then the administration coordinated announcements to the press, students, faculty, staff, and patients.

Efforts were made to inform all people who were affected by the circumstance and at the same time assure the confidentiality of the infected student. In addition

Figure 1. Letter of Notification.



December 8 1990

CONFIDENTIAL

Dear

Because our patients' well being is the first priority at the Medical College of Georgia School of Dentistry, I am writing to you with some information that is important to your health. We have recently learned that an individual involved in providing dental treatment to you has tested positive for HIV, the virus which causes Acquired Immune Deficiency Syndrome (AIDS)

Based on the most current and reliable scientific evidence, the likelihood that you were infected with the HIV virus is extremely low. All dental health care workers and students are required to follow precautions designed to prevent the transmission of diseases, including HIV. These precautions have been taken, however, for your peace of mind we strongly recommend that you be tested for the presence of the virus.

The Medical College of Georgia, in coordination with the Georgia Division of Public Health, is offering you free testing for HIV. Please contact Ms. Vera Greeson, MCG School of Dentistry, at (404) 721-2607, between the hours of 1:00 PM and 5:00 PM, to schedule your appointment. If you are calling long distance, please call collect. Your confidentiality will be protected.

If you have any further questions or concerns regarding this letter, please contact Ms. Vera Greeson or Dr. Robert Comer at the number mentioned above.

Sincerely,

David R. Myers, DDS, MS
Dean

Augusta, Georgia 30912-1000 (404) 721-[illegible]
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to the people who were directly involved initially, it was necessary to brief MCG telephone operators, receptionists in dental admissions, and selected faculty who manned the designated telephones after hours on the announcement day. Faculty members provided full-time coverage for telephone inquiries as well as conferences to reassure patients and students. Call lists were provided that included backup phlebotomists, counselors, psychologists, attorneys, and infectious disease specialists.

Additional staff support requirements were also recognized. A secretary was assigned the task of making all appointments for testing and counseling. A nurse from the Richmond County Health Department (RCHD) was assigned to the School of Dentistry clinic for full-time counseling and testing for a two-week period. The county health department and infectious diseases division provided the necessary support materials. These materials included serum vials, brochures, consent forms, laboratory prescriptions, laboratory analysis, and transportation of serum specimens. The spirit of cooperation and the campuswide assistance were overwhelming, appreciated, and necessary.

Notification of School Personnel—The administration felt it was important to inform the faculty, students, and staff of the dental school prior to any general announcement to the press. Consequently, on a Monday morning (11 days following the meeting between the student and dean), a special noon assembly was announced for all faculty, staff, and students. During this meeting there were several important activities. The press release was read and appropriate information was provided. The administration requested assistance in disseminating correct information and in rumor control. Principles of infection control were reinforced, suggestions were offered, and questions were answered. Later, copies of several documents were distributed. These included the MMWR,[2] the press release, "the ADA Statement for the Media on CDC AIDS Report"[6] and "the ADA Q & A on AIDS Transmission."[6]

Notification of Patients—Within the first few days 163 patients treated by the HIV positive student were identified. The total of 163 patients included those treated by the student at offsite locations, all those treated on campus as regular assigned patients, all those referred for one or more treatment steps, and all those who reported for emergency procedures. If the student participated as an assistant in a surgical procedure, these patients were also included.

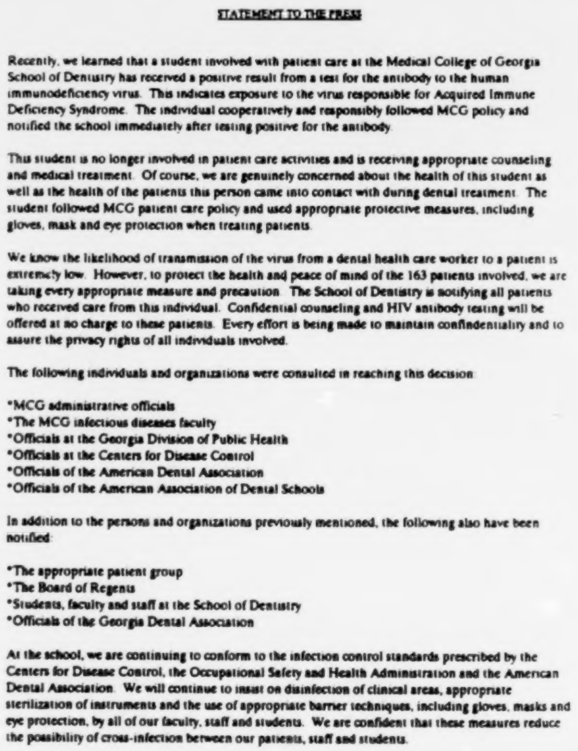
Letters were prepared for mailing to all patients (or guardians) in the contact group (Figure 1). The letters were sent by certified mail with restricted delivery required to ensure delivery only upon signature of the addressee. The letters were posted on Saturday, the ninth day after the student notified the dean of the HIV antibody test results. The postal service assured the school administration that the letters would not be delivered before midmorning on the following Monday. This mailing time was planned to assure that announcements to patients would coincide with notification of the students, staff, and press.

The letter informed the patients that one of their dental providers was HIV antibody positive. Patients were told that the likelihood of transmission from dental procedures was extremely low and that appropriate precautions (i.e., barrier techniques, instrument sterilization, and area disinfection) had been followed. The school recommended that they be tested for the presence of the HIV antibody. Instructions and phone numbers for arranging testing and for general inquiries were included.

The counseling and testing were conducted by the Georgia Division of Public Health on the MCG School of Dentistry premises. All counseling and testing was conducted in a manner to provide confidentiality for the patients. Patients were informed of test results both by telephone and in writing. At the time of the telephone contact, pertinent information relating to the individual's response was recorded.

Notification of the Press and Public—The School of Dentistry administration prepared a press release that was reviewed and edited by the MCG legal office and from the Division of Institutional Relations (Figure 2). The press coordinator announced a press conference for 2:00 p.m. on Monday (Day 11). On that morning the press coordinator rehearsed the Dean of the School of Dentistry, who was to be the designated spokesperson. The press conference was attended by representatives of all print and broadcast media in the local area. Additional reporters from the local and national affiliates requested interviews on the following day.

Figure 2. Press Release.



STATEMENT TO THE PRESS

Recently, we learned that a student involved with patient care at the Medical College of Georgia School of Dentistry has received a positive result from a test for the antibody to the human immunodeficiency virus. This indicates exposure to the virus responsible for Acquired Immune Deficiency Syndrome. The individual cooperatively and responsibly followed MCG policy and notified the school immediately after testing positive for the antibody.

This student is no longer involved in patient care activities and is receiving appropriate counseling and medical treatment. Of course, we are genuinely concerned about the health of this student as well as the health of the patients this person came into contact with during dental treatment. The student followed MCG patient care policy and used appropriate protective measures, including gloves, mask and eye protection when treating patients.

We know the likelihood of transmission of the virus from a dental health care worker to a patient is extremely low. However, to protect the health and peace of mind of the 163 patients involved, we are taking every appropriate measure and precaution. The School of Dentistry is notifying all patients who received care from this individual. Confidential counseling and HIV antibody testing will be offered at no charge to these patients. Every effort is being made to maintain confindentiality and to assure the privacy rights of all individuals involved.

The following individuals and organizations were consulted in reaching this decision:

*MCG administrative officials
*The MCG infectious diseases faculty
*Officials at the Georgia Division of Public Health
*Officials at the Centers for Disease Control
*Officials of the American Dental Association
*Officials of the American Association of Dental Schools

In addition to the persons and organizations previously mentioned, the following also have been notified:

*The appropriate patient group
*The Board of Regents
*Students, faculty and staff at the School of Dentistry
*Officials of the Georgia Dental Association

At the school, we are continuing to conform to the infection control standards prescribed by the Centers for Disease Control, the Occupational Safety and Health Administration and the American Dental Association. We will continue to insist on disinfection of clinical areas, appropriate sterilization of instruments and the use of appropriate barrier techniques, including gloves, masks and eye protection, by all of our faculty, staff and students. We are confident that these measures reduce the possibility of cross-infection between our patients, staff and students.

Shortly before the press conference, copies of the press release were distributed by fax to representatives at the Georgia Department of Public Health, the Georgia Dental Association, the ADA, the AADS, the CDC, and the Board of Regents of the University System of Georgia. The panel for the press conference included the President of MCG, the Dean of the School of Dentistry and the Hospital Chief of Infectious Diseases. The prepared statement was read and questions followed. The conference ended within an hour.

The press reaction was generally favorable and reporters' questions disclosed considerable depth of knowledge on the subject. The time of the conference was arranged to allow reporters to meet deadlines for the evening TV news and the morning print articles. The primary newspaper journalist for scientific matters called for daily updates on the progress of the planned testing and counseling.

Follow-up Communication

Patients were informed of test results both by telephone and in writing as soon as the test results became available. At the time of the telephone contact, pertinent information relating to the individual's response was recorded.

Immediately after the New Year's holiday (day 35) a second news release was provided to all newscasters who attended the original news conference and to those who had made inquiries or requested interviews. This press release presented statistics on patients who reported for testing and early test results. In addition to factual information the release contained several other statements of importance. The journalists were cautioned not to draw premature conclusions from incomplete testing. They were requested to encourage untested patients to arrange for appointments as soon as possible. The School of Dentistry also used this opportunity to repeat the message that the likelihood of cross infection was extremely low and that all staff used appropriate infection control precautions.

Data Collection

Preparation to gather pertinent data and information was identified as a high priority before making public announcements. Four general sets of data were targeted for collection — historical demographics, test results, inquiries, and associated outcomes. This information will be analyzed and reported in due course.

Demographic Data—A spread sheet was designed to expedite the sorting and analysis of information. Key elements of demographic information included name, guardian, age, race, sex, address, and phone numbers. Treatment summary information included the total number of patient visits, the procedures performed and the dates of first and last appointments.

Data identified for the testing phase of the project included date of notification, date of test, results of tests, anticipated dates for follow-up counseling/testing, and general comments. Data sets were designed to record the patient's HIV antibody test results at three month intervals for up to one year since last contact with the student. The data were stored and processed using the spreadsheet on a desktop computer. Appropriate safeguards were built into the system to insure strict confidentiality of all information.

Initial results of the ELISA tests in the school have all been negative. One hundred forty three of the 163 patients have been tested. Of these, thirteen were tested at private facilities and the results are unknown. Two patients were notified and declined counseling and testing. The remaining 18 patients have all received certified letters and follow-up phone calls. Continuing efforts are being made to encourage all patients to report for testing. Conclusions regarding disease transmissibility on these cases are premature. Additional testing opportunities have been arranged at three month intervals for a minimum of one year since the last contact with the student.

Inquiries and Outcome Data—Provisions were made to record data pertaining to the nature of the telephone inquiries received. A group of receptionists, the counselors, and faculty were provided with a form and instructed to collect information from each incoming call relating to the situation. Information obtained included name of caller, name of respondent, time, date, the caller subgroup identifier, the questions asked, general comments on the conversation, source of information for the call, and an indication of the demeanor of the individual. These information sheets were designed so that the respondent could record most of the information on a checklist.

The test results, publicity, anxiety, changing societal and professional philosophies, and evolving guidelines and regulations may have a profound impact on the patient population, curriculum, and policies for patient care in the School of Dentistry. Patients, faculty, staff, and students will be consulted and information recorded to determine their chief concerns and expectations in the aftermath of an extremely tense situation that occurred in a rapidly changing environment.

Status of the Student

The student is enrolled in school and attending classes. Deliberations are continuing on the appropriateness of alternative methods of completing the graduation requirements. Two primary options and combinations of options are being considered. They include performance of simulated exercises and treatment of a group of HIV positive patients on campus or at related institutions.

At this point in time, neither of these curricular options presents a solution that satisfies all curricular objectives, faculty expectations, or public relations considerations. Faculty consensus is that the awarding of a clinical degree requires demonstration of clinical competence. Therefore opportunities for simulated exercises will be minimized. The other option, treatment of HIV positive patients, presents another dilemma. Patients who require treatment of specialty procedures to meet the student's graduation requirements are not easily identifiable.

Summary

By virtue of the fact that inexperienced dental students perform invasive dental procedures on patients, they present a unique risk for transfer of blood borne communicable diseases from health care worker to patient. The identification of an HIV antibody positive dental student presented a crisis involving medicolegal, ethical, and public relations issues not normally encountered in a dental school. The confidentiality of the student was carefully protected while weighing the institutional responsibility to fulfill its obligation to inform its patients and to assure their health.

Fortunately the initial institutional, public and media reactions have been supportive of the actions taken in this crisis. In any crisis or difficult situation, it is always advisable to look for opportunities for improvement. If these opportunities are recognized, the situation may be used to advantage. The primary areas identified were improvements in infection control policies, curriculum review, and staff reorganization. Preliminary indications from phone calls and editorial comments suggest that people have appreciated the open response and the commitment of the institution.

ACKNOWLEDGEMENTS

The authors sincerely appreciate the continuing support and assistance of the staff of the Richmond County Health Department and the East Central Health District of the Georgia Division of Public Health. Special contributions for testing and counseling were invaluable. Mr. R. E. Adams, District Program Manager, Ms. Vera Greeson, District Principal Community Epidemiologist and Ms. Willa Mitchell, District AIDS Coordinator provided the expertise for counseling and testing.

Staff Administrators (Rita Garner, Barbara Crawford, Shelby Blair and Brenda Padgett) and key secretaries (Joy Garner, Margaret White, and Susan Gurley) assumed major additional responsibilities and worked countless overtime hours to provide the essential logistical support.

These people have all been outstanding in helping to improve the School of Dentistry's morale and the administrator's ability to manage an incredibly complex situation.

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WASHINGTON UNIVERSITY
CHECKLIST

In the course of developing a rational response to the knowledge that John Doe, a third year dental student, is HIV positive, the following matters must be addressed and issues considered:

A. John Doe's Student Status

1. Seek expert medical advice on HIV infection.
2. Seek information on the nature of the Dental School curriculum.
3. Evaluate John Doe's current academic status.
4. Make or defer decision on John Doe's ability to complete the Dental School curriculum.
5. Appoint and brief Dental School faculty member to serve as official contact with John Doe.
6. Explore other Dental School, degree, and employment options for John Doe.
7. Review John Doe's eligibility for student health benefits.
8. Review John Doe's eligibility for cancellation of student loans.
9. Review John Doe's housing situation.
10. Decide to what extent Dental School faculty should be informed of situation.
11. Decide to what extent, if any, University should provide financial support to John Doe.
12. Keep in touch with John Doe's lawyer.

B. Possibility of HIV Transmission from John Doe to Others

1. Seek expert medical advice on HIV infection.
2. Seek medical and ethical guidance regarding whether John Doe's patients should be contacted and informed of their prior treatment by a School clinic worker who has tested HIV positive.
3. Develop protocol for contacting John Doe's patients.
    a. Consider how to minimize patient anxiety.
    b. Consider how to protect John Doe's identity.
    c. Carefully educate all personnel involved in process.
        1. Stress need for confidentiality.
        2. Develop guidelines for counseling patients.
        3. Develop guidelines for appropriate medical/dental record entries.
        4. Develop informed consent form.
4. Identify patients on whom John Doe performed invasive procedures.
5. Notify patients.
6. Counsel patients.
7. Test patients who elect to be tested.
8. Meet again with patients to deliver test results.

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9. Determine internal budget source to support counseling and testing effort.
10. Consider possibility that a patient will test HIV positive.
11. Consider identifying and testing former sexual partners to the extent they are Washington University students or faculty.
12. Notify University's general liability insurer.

C. Miscellaneous

1. Consider how to minimize general anxiety about HIV infection and AIDS among students, faculty, staff and general patient population of the Dental School.
2. Confirm that Dental School students, faculty and staff are well-educated about HIV infection and AIDS and that all appropriate barrier protections are available to and used by dental personnel working in the Dental School Clinic.
3. Consider how to minimize negative impact on Dental School.
4. Determine how to respond to media inquiries.
5. Inform Chancellor.
6. Notify Trustees.
7. Brief other Medical Center institutions.
8. Notify the Centers for Disease Control, the American Dental Association and the Surgeon General's Office so that they will be familiar with our actions if contacted by the media.
9. Maintain chronology of key events and decision-making.

In order to enhance the University's ability to respond effectively to the AIDS epidemic, the following matters should be addressed and issues considered by University administrators and the Washington University Committee on AIDS ("WUCA"):

A. Procedural Matters to be Addressed

1. Ensure that the membership of WUCA includes representatives from the following: The Infectious Diseases Division of the Medical School, Student Health, Central Administration, Student Affairs, Personnel, Public Relations, Counseling, Environmental Safety and the General Counsel's Office.
2. Determine lines of internal reporting re campus cases of HIV infection, ARC or AIDS.
3. Determine lines of responsibility for developing the University's response to such cases.
4. Implement recommended responses.
5. Determine nature of financial support required by WUCA and other University AIDS initiatives.

6. Determine nature of clerical support required by WUCA and other University AIDS initiatives.
7. Appoint person or office to serve as clearing house for literature/information on HIV infection and AIDS.

B. Substantive Policies to be Considered

1. Nature and scope of University's AIDS education efforts.
2. Nature and scope of University's environmental safety efforts.
   a. Protocols for handling human tissues and body fluids.
   b. Protocols for responding to accidental exposures to human tissues and body fluids.
   c. Protocols for disposing of materials contaminated with human tissues and body fluids.
3. Availability of HIV antibody testing for students, faculty and staff.
4. Requirement of HIV antibody screening for students, faculty and staff.
5. Requirement of self-identification of HIV infected students, faculty and staff with patient care responsibilities.
6. Confidentiality of information regarding HIV infected students, faculty and staff--health care and non-health care.
7. Availability of medical care and counseling for HIV infected students, faculty and staff.
8. Accommodation of HIV infected students, faculty and staff--health care and non-health care.
9. Retention of HIV infected students, faculty and staff--health care and non-health care.
10. Health and disability insurance coverage.
11. Treatment of HIV positive patients.
12. Admissions Standards--health care and non-health care programs.
13. Residence Hall housing assignments for HIV infected students.
14. Athletics Participation Standards.
15. Catalog/Bulletin Statements.
16. Relationship with local media regarding AIDS issues.

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

JOHN DOE,)
)
Plaintiff,)
)
vs.) No. 88-2509-C-4
)
WASHINGTON UNIVERSITY,)
WILLIAM DANFORTH and)
DAVID BENSINGER,)
)
Defendants.)

DEFENDANTS' REPLY TO PLAINTIFF'S BRIEF IN OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

I. Summary Judgment Standards.

[deleted]

II. The Law Requires Judicial Deference to the University's Decision Not to Permit Plaintiff to Continue in Dental School.

The United States Supreme Court has established the principle that careful, deliberate, professionally-made decisions concerning a student's fitness to study may not be second-guessed by the Courts. Regents of The University of Michigan v. Ewing, 474 U.S. 214 (1985); Board of Curators of the University of Missouri v. Horowitz, 435 U.S. 78 (1978). The decision of Washington University to dismiss Plaintiff was such a decision. See Defendant's Memorandum in Support, pp. 2-16, 36-37.

Plaintiff insists that the decision to disenroll him is not entitled to judicial deference because: (a) Section 504 requires an individualized inquiry into the merits of the decision and (b) the decision was "medical," not "academic" and only "academic" decisions command judicial restraint.[1] Neither assertion is persuasive.

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[1] Defendants anticipated this argument and explained at length in their Memorandum in Support, pp. 33-36, that even if the decision were "medical" it is still entitled to judicial deference. Youngberg v. Romeo, 457 U.S. 307 (1982). Plaintiff has chosen to ignore this controlling authority; his Brief in Opposition makes no mention of Youngberg.

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A. The Individualized Inquiry Requirement of Section 504.

Plaintiff's last ditch effort to stay in Court is based in part upon a serious misreading of the following passage from *School Board of Nassau County v. Arline*, 480 U.S. 273, 287 (1987):

> To answer this question in most cases, the District Court will need to conduct an individualized inquiry and make appropriate findings of fact. Such an inquiry is essential if Section 504 is to achieve its goal of protecting handicapped individuals from deprivations based on prejudice, stereotypes, or unfounded fear, while giving appropriate weight to such legitimate concerns of grantees as avoiding exposing others to significant health and safety risks.

Because individualized inquiry is required in most Section 504 cases, Plaintiff argues that the Court is in effect required to decide whether the University's decision to dismiss plaintiff was "correct." As previously explained, Section 504 imposes no such responsibility on the Court. *See* the discussion of *Anderson v. University of Wisconsin*, 841 F.2d 737 (7th Cir. 1988) at Defendants' Memorandum in Support, pp. 31-32.

Plaintiff apparently views the concepts of "individualized inquiry" and "judicial deference" as mutually exclusive; they are not. Indeed, the *Arline* opinion itself encourages the Courts to defer to determinations made by public health officials. *Id*. at 480 U.S. 288. Judicial deference to professional decisionmakers is an appropriate part of the individualized inquiry process; it is an element of the *individualized* part. Stated otherwise, it could well be that the Court would be required to take a substantive look at the correctness of decisions made by non-professionals concerning the "otherwise qualified" requirement of Section 504, but in making its individualized inquiry into genuinely professional decisions concerning a student's fitness to continue the Court may not substitute its judgment for the reasoned, professional judgment of the University decisionmakers.

If plaintiff's view of the "individualized inquiry" requirement of *Arline* were accepted, summary judgment would never be possible in a Section 504 case. But no post-*Arline* decision even hints at such a rule and plaintiff has cited none. To the contrary, the Supreme Court denied *certiorari* in *Schuler v. University of Minnesota*, 479 U.S. 156 (1987), during the very same term in which it decided *Arline*. In so doing, the Court left intact a Summary Judgment in favor of the defendant University against a plaintiff who had asserted both Section 504 and 14th Amendment Due Process Claims. The Seventh Circuit decision in *Schuler* rests squarely on the judicial deference principle of Ewing. Schuler v. University of Minnesota, 788 F.2d 510, 516 (1986).[2]

B. The Decision Not To Permit Plaintiff to Continue in Dental School Was An Academic Decision.

A decision to remove a student from an academic program is, by definition, an academic decision within the meaning of Ewing and Horowitz. It is not the "location where it is made" (plaintiff's Brief in Opposition, p. 9) but the context in which it is made which makes a decision "academic." The Supreme Court could hardly have been more clear about this in Horowitz. The decision that Charlotte Horowitz was unfit to continue her clinical training was based upon such factors as her bad personal hygiene, specifically, dirty fingernails. Plaintiff argues here that Horowitz's dismissal was based upon her clinical "performance" but it is difficult to discern a distinction (except in degree) between Horowitz's dirty fingernails and plaintiff's HIV infectiousness. Both are conditions which the academic decisionmakers considered in making their respective decisions that the students were unfit to continue. The Supreme Court left no doubt that it considered such decisions "academic." Id. at 435 U.S. 91, n. 6.

Accordingly, controlling law requires the Court to limit its review of Washington University's decision not to permit plaintiff to continue in Dental School. So long as the decision of the University's committees was not arbitrary--so long as the decision was not based on stereotypes, prejudice or unfounded fears--so long as the decision was not such a substantial departure from accepted academic norms as to demonstrate that the University's committees did not actually exercise professional judgment, the Court may not substitute its judgment for that of the University. See Ewing, at 474 U.S. 225; Arline at 480 U.S. 287.

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[2] At p. 7 of his Brief in Opposition plaintiff makes the incredible assertion that defendants' judicial deference argument is "without case support," ignoring, among others, Youngberg, Ewing and Horowitz. It is plaintiff's own argument that judicial deference is inappropriate in a Section 504 case which is utterly without case support.

Note also that plaintiff's Brief in Opposition, p. 7, has mischaracterized Ewing as a Section 504 case involving an alcoholic. Section 504 was not at issue in Ewing and no claims relating to alcohol were made by either party.

III. A Material Factual Dispute Does Not Exist.

Plaintiff argues that a material factual dispute exists over the significance of the risk plaintiff poses in a clinical setting. While plaintiff never clearly articulates the parameters of this dispute, a careful reading of plaintiff's brief indicates that the alleged material factual dispute boils down to this: Plaintiff believes that if he uses proper barrier techniques, the risk that he will transmit HIV to a patient while performing an invasive dental procedure is acceptable. Defendants, on the other hand, believe that the risk is unacceptable.

Although plaintiff has tried valiantly to convince the Court otherwise, this case does not require the Court to decide whether it deems the risk that plaintiff will transmit the AIDS virus to a patient to be an acceptable risk or an unacceptable risk. This case certainly does not require the Court to do what hundreds of medical and public health experts have as yet been unable to do--to quantify the risk of transmission of the AIDS virus from an HIV-infected health-care worker to a patient and to determine which health-care activities an HIV-infected individual should be freely permitted to perform and which activities should be proscribed. Under controlling law, as described above, the question presented by this case is extremely narrow. Was the decision of the Washington University committees discriminatory? Was it arbitrary--was it tainted by prejudice, stereotypes or unfounded fears--was it outside the boundaries of reasonable professional medical and ethical opinion? If so, then plaintiff prevails. If not, defendants prevail.

Plaintiff's Brief in Opposition makes three arguments. First, plaintiff attempts to lump Washington University in with the hysterical, irrational positions taken by the defendants in *Chalk v. U.S. District Court*, 840 F.2d 701 (9th Cir. 1988); *Ray v. School District of Desoto County*, 666 F. Supp. 1524 (M.D. Fla. 1987) and *Thomas v. Atascadero Unified School District*, 662 F. Supp. 376 (C.D. Cal. 1987). Plaintiff's efforts are unavailing. In those cases, the contacts between the plaintiffs and those sought to be protected were simply the casual social contacts experienced daily in every grade school and high school classroom in the country. The federal Centers for Disease Control (the "CDC") had announced long before those cases were decided that there was no known risk of transmission of HIV in traditional school settings. *See* defendants' Exhibit C. Thus, the expressed concerns that such plaintiffs could transmit HIV to their students and/or classmates were irrational. Unlike those cases, the instant action involves a setting which the CDC has acknowledged does indeed provide an opportunity for transmission of HIV. *See* defendants' Exhibits A, B, C and D. To complete his dental education, plaintiff must perform large numbers of invasive dental procedures on patients for the purpose of acquiring experience and proficiency in the practice of dentistry.

Second, plaintiff presents an affidavit from plaintiff's own expert, Dr. Robert Klein. This effort is similarly unavailing. In his affidavit, Dr. Klein states only that, in his opinion, an HIV positive dental worker, who uses proper barrier techniques, does not present an unacceptable risk to his/her patients. The affidavit does not address the situation of a dental student who lacks experience and expertise. Moreover, while it implies that Dr. Klein disagrees with the University's decision, it in no way implies that Dr. Klein thinks the University's decision was unprofessional or unreasonable.

Third, plaintiff attempts to disparage the experts on whom the University committees relied in reaching their decision. These efforts are misguided; plaintiff misses the point. Defendants are fully cognizant of the fact that a Motion for Summary Judgment is not an appropriate place in which to engage in a battle of experts or affidavits. Defendants referred to limited expert opinion in their Memorandum in Support not for the purpose of convincing the Court that defendants' decision was correct, but merely for the purpose of demonstrating to the Court that defendants' decision was neither arbitrary nor tainted by prejudice, stereotypes or unfounded fears. Defendants' decision, rather, was based on the legitimate concern of avoiding exposing others to significant health and safety risks.

Accordingly, while plaintiff disagrees with defendants' decision not to permit him to continue in Dental School and while he correctly points out that there is uncertainty and sometimes disagreement within the scientific community regarding the degree of risk that an HIV infected dental worker poses to his patients, plaintiff has presented to the Court absolutely nothing which would indicate that defendants' decision was arbitrary, was based on impermissible prejudice, stereotypes or unfounded fears, or was outside the boundaries of reasonable medical and ethical opinion. No material factual dispute exists.

CONCLUSION

Plaintiff has misstated the appropriate standards for summary judgment and for judicial review of a decision concerning a student's fitness to remain a student. He has also claimed the existence of a material factual dispute when there is none.

The United States Supreme Court has established the principle that a careful, deliberate, professionally-made decision concerning a student's fitness to continue in an academic program may not be second-guessed by the Courts. The decision to dismiss plaintiff from Dental School was such a decision. Accordingly, under controlling law, summary judgment should be entered for defendants.

THE HIV-INFECTED HEALTH-CARE WORKER

Additional Resources

CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

** "Recommendations for Prevention of HIV Transmission in Health-Care Settings," MMWR August 21, 1987.

** "Update: Acquired Immunodeficiency Syndrome and Human Immunodeficiency Virus Infection Among Health-Care Workers," MMWR April 22, 1988.

**The full text of these CDC documents in included elsewhere in this Compendium.

OCCUPATIONAL SAFETY AND HEALTH ISSUES

See the "Occupational Safety and Health Issues" Section of this Compendium.

ASSOCIATION POSITION STATEMENTS

See the "Association Position Statements" Section of this Compendium.

LEGAL ISSUES

See the "Legal Background Section of this Compendium.

Leckelt v. Board of Commissioners of Hospital District No. 1, 909 F. 2nd 820 (5th Cir. 1990).

This case involved a licensed practical nurse who was discharged by a hospital after refusing to submit HIV test results to the hospital. The discharge was upheld by the Fifth Circuit.

LAW REVIEW AND JOURNAL ARTICLES

"Health-Care Professionals with AIDS: The Risk of Transmission Balanced Against the Interests of Professionals and Institutions." 16 The Journal of College and University Law 589-621 (1990).

"The Rehabilitation Act's Otherwise Qualified Requirement and the AIDS Virus: Protecting the Public from AIDS-Related Health and Safety Hazards," 30 Arizona Law Review 571-631 (1988).

See also the "Legal Background" Section of this Compendium.

MEDICAL JOURNAL ARTICLES

"AIDS in a Surgeon," 313 The New England Journal of Medicine 1017-1018 (1985).

"Investigation of a Health Care Worker with Symptomatic Human Immunodeficiency Virus Infection: AN Epidemiologic Approach," 152 Military Medicine 414-418 (1987).

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"Physicians in Training and HIV," 332 The New England Journal of Medicine 1392-1393 (1990).

"Resident Disability Insurance," 264 The Journal of the American Medical Association 3070 (1990).

"AIDS at the Medical College of Georgia--A Study in Institutional Ethics," 55 Journal of Dental Education 235-237 (1991).

"Management Considerations for an HIV Positive Dental Student; Ethical and Legal Commentary," 55 Journal of Dental Education 238-240 (1991).

MISCELLANEOUS

"Pharmacist Wins Ruling in Case of AIDS Bias," The New York Times, December 14, 1990.

> The New York Times reported that the New York State Division of Human Rights had ruled that a medical center had discriminated against a pharmacist infected with HIV when it refused to hire him because of the "theoretical risk of infection" he presented.

"Woman with AIDS Tied to Her Dentist Will Get $1 Million," The New York Times, January 24, 1991.

> The New York Times reported that the woman believe to be the subject of CDC reports of the transmission of HIV from a dentist to a patient has reached a $1 Million settlement with her dentist's malpractice insurer.

"Delaware Dentist Dies of AIDS and His Patients are Offered Test," The New York Times, March 18, 1991.

"Second Florida Dentist Tells Patients He Has AIDS," The New York Times, April 18, 1991.

"Judge Rules Surgeon Infected with AIDS Must Tell Patients," The New York Times, April 26, 1991.

"Oregon Panel Adopts Policy for Doctors Who Have AIDS," The New York Times, April 29, 1991.

STUDENT EDUCATIONAL ISSUES

Susceptibility to AIDS: What College Students Do and Don't Believe

DIANE MANNING, PhD, MPH, PAUL M. BALSON, MD, MPH, NAOMI BARENBERG, MD, and TRACY MIZELL MOORE, MPH

In-depth, qualitative discussion using the nominal group technique examined freshmen's perceived susceptibility to AIDS and barriers to prevention. Groups were led by dormitory resident advisors as a follow-up to a survey questionnaire of college students' knowledge and beliefs about AIDS. Students' comments showed that many misunderstandings lay behind an apparent understanding of the facts about AIDS. These findings underscore how imperative it is that college health education programs be attuned to the needs and address the deficiencies of the particular student body. In-depth, qualitative research techniques such as the nominal group are described as useful in tailoring AIDS prevention to the specific campus audience and are an appropriate introduction to an AIDS-education session. Suggestions, based on students' comments, are made for improving AIDS-prevention programs on campus.

A recent questionnaire survey[1] of undergraduates at a private research university in the South found that students generally knew the "facts" about AIDS. The questionnaire also investigated undergraduates' beliefs about AIDS and safer sex practices. Questions were organized around the major dimensions of the well-researched Health Belief Model (HBM)[2,3] so that health educators would have a better idea of where to target their efforts. Undergraduates scored lowest in perceived *susceptibility* to AIDS and in *likelihood* of practicing safer sex. Differences between knowledge groups showed that low knowledge students felt that it was more trouble to practice safer sex than did high knowledge students. The results were consistent with many of the developmental features of adolescence, which tend to pull college students toward high-risk behaviors even when they "know better."

Although the questionnaire results help to provide some direction for designing campus AIDS-prevention programs, much more information is needed. For example, why do students feel this way? What can be done to help change their beliefs? Finding the answers to these questions is not easy, but perhaps one of the best ways may simply be to ask students directly what they think. Then it may be possible to begin to understand why these intelligent young people say they are unlikely to practice safer sex even when they know the facts indicate they should. Specifically, the four questions posed to college students after we analyzed the results of our first study were:

A. Why do you think (college name) students don't believe they are susceptible to the AIDS-causing virus?

B. What health education measures do you think could be taken to help (college name) students recognize that they are susceptible to the AIDS-causing virus?

C. What do you think (college name) students see as the obstacles to following "safer sex" practices?

D. What health education measures do you think could help remove the barriers (college name) students see in practicing safer sex?

METHODS

Once the initial quantitative questionnaire had targeted the areas of the HBM where efforts should be concentrated, it seemed important to follow up by sampling individual and community perceptions about the meaning of the study's major findings. We wanted

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to gain as much insight as possible into the students' thought processes so that the college's AIDS-prevention program could be tailored to the specific perceptions and mores of the consumers. A qualitative research technique seemed appropriate for providing in-depth answers to the study questions. We needed interpersonal communication, rather than paper-and-pencil responses, and therefore selected a modified nominal group technique. A similar method of focus groups, a technique derived from market research, had been previously found to be useful in developing AIDS-prevention programs.[4] Using focus groups overcomes many of the disadvantages of questionnaire methods, especially nonsampling errors such as lack of in-depth probing.[5,6] Unlike traditional focus groups, however, the nominal group technique allows participants to rank-order priorities.

The procedure made the nominal groups the first part of an AIDS-education program conducted by the university health service. After the nominal groups, a university physician and a health educator were available to follow up the discussions and to answer questions in an informal setting. This was in accordance with the results of the initial questionnaire, on which college students had indicated that they preferred to learn about AIDS from a physician or other health professional.

In order to have nominal group leaders who were credible to, accepted by, and familiar with the target students, we chose 20 resident advisors (RAs) (upperclassmen and graduate students who lived in freshman dormitories and served as student advisors). The college required RAs to conduct a number of educational meetings with their residents throughout the year. With the approval of the campus office of residence life, the AIDS education described here was declared an eligible activity.

Before the AIDS discussion groups with the freshmen, we trained RAs in the use of the nominal technique. The authors met for 2½ hours with the RAs and simulated the procedure they would use with their freshmen. We held debriefing and passed out written procedures. Two RAs worked together as a team and alternated roles as leader and timer (who made sure the procedures were standardized). Each group discussed two specific questions (either A and B above or C and D above). In addition to the two RAs assigned to each group, two health professionals met with the groups at the conclusion of the nominal group session to answer any questions.

Leader's Procedures

1. The leader reminded the freshmen that the purpose of the meeting was to learn their ideas about AIDS education and to answer their questions about AIDS. They were told the meeting would last from 45 minutes to an hour.

2. The leader tacked up poster-sized paper with the first discussion question written on it and passed out papers with this question written at the top. Students were asked to write down the first five answers that came to mind (5 minutes maximum).

3. The leader asked everyone in the group to read his or her best response. The answers were written on the poster paper. The process continued until all the ideas were recorded.

4. The leader asked group members to double check that all their ideas had been recorded. The leader then went through the written list, reading each one aloud. This was the time to clarify, edit, and combine suggestions. The final wording of each had to be agreeable to everyone in the group. It was important not to have duplicate answers.

5. The leader asked the students to rank-order the five ideas on the group's list that they thought were best.

6. The leader collected the sheets, then changed roles with the timer. The new leader posted the second question and continued with the same routine.

7. The leader introduced the physician and health educator. The meeting was open for questions and answers about AIDS. Informational pamphlets were distributed.

After all the nominal groups completed their discussions, group and individual preferences were rank-ordered by assigning a weight of 5 points to each person's highest-ranked item, 4 points to the second highest, and so forth. When scores by item for all participants in the group were averaged, the group's priorities became apparent.

Even though it was anticipated from the initial questionnaire that the students' knowledge would be good, it was important to ensure that there was a common definition of safer sex that everyone would be using in the discussion. The papers on which the students wrote their thoughts about safer sex practices, therefore, offered the following standardized definition: "Physicians and the Centers for Disease Control have recommended the following safer sex practices as a means of reducing the risk of getting the AIDS-causing virus: (1) total abstinence from sexual intercourse; (2) self-masturbation; (3) mutual masturbation; (4) latex condoms; (5) latex condoms with spermicidal jelly/foam."

Sample

Twenty RAs volunteered to recruit freshmen for the AIDS discussion through personal contact and poster announcements. From a potential of approximately 400 freshmen, 122 volunteered and attended. Sixteen same-sex groups of 4 to 10 freshmen met on three different nights. Nine groups totalling 78 men and 7 groups totalling 44 women participated. Fewer women participated because fewer female RAs were available to lead them. All of the students were white freshmen;

the median age was 18 years. Discussion groups were held during April toward the end of the freshman year. As is usual for qualitative research groups, the students were self-selected.

In order to be certain that freshmen in the present study had equal or superior knowledge about AIDS to the respondents in the earlier questionnaire study, the same 14 knowledge items were asked of these present participants. The written questions were answered before beginning the discussion. The mean knowledge score for the first study was 78%; for the present study it was 87%. The group's high knowledge eliminated the possibility that these students volunteered to attend because of their inferior knowledge about AIDS. In fact, the greatest motivations for attending were for the students to receive "credit" for attending the educational sessions led by the RAs (freshmen are required to attend such meetings) and to have the free pizza that was offered at the discussions groups, which took place just before dinnertime.

The university health service had a vigorous AIDS-prevention program, and the AIDS educator had held frequent AIDS information meetings for freshmen in the dormitories prior to the present AIDS discussion. Safer sex information, including the fact that free condoms were available through the university health service, was prominently displayed on campus. For several weeks before the discussion groups, the facsimile of a well-known credit card was placed on every dining hall table to remind students about condoms with the message "don't leave home without it." It would be hard to imagine that very many students could have failed to have learned at least the rudiments of safer sex; eg, only one student in the sample failed to know that "using a condom (rubber) during sex can lower the risk of getting AIDS." Indeed, these students' knowledge scores on the brief questionnaire suggested that they were at least as well-educated as other college students who have been studied elsewhere.[7]

RESULTS

The top answers for each of the groups are presented on Table 1. Although it would have been possible to combine all of the groups into one large session and have them pick the top five answers overall, that was not necessarily consistent with our purpose. The goal was to gain as much insight as possible into high-priority ideas as the students presented them. From the body of information provided by the students, it was hoped that the college health educators could better understand the thinking behind the students' behaviors and design improved AIDS-prevention programs based on that insight. All of the choices that appeared in the top five of any group's list are therefore presented on the table. Duplicates among the groups are not repeated. None of the answers have been censored, even though some may be offensive or inappropriate. The purpose was to try to learn more about what college students are actually thinking about AIDS. Answers from male and female groups are differentiated.

In addition to the top choices, many of which are appropriate and useful, it is worth reporting some of the other inappropriate ideas. Although these items were not voted as preferred choices, none of them was seen as ridiculous by others in the group, at least not openly. These choices are shown in the bottom portion of the table. They are useful to us as an indication of some areas in which our efforts at AIDS education have been unsuccessful.

DISCUSSION

The appropriateness of using an in-depth, qualitative methodology is underscored by the range and diversity of responses it elicited. We were struck by the two ends of the spectrum—the answers that reflect good knowledge about AIDS and careful thought about how to prevent its spread, and the answers that do not. We hope both will be useful to college health professionals in designing AIDS-prevention programs on their campuses.

Although it is true that students were deliberately asked to respond to why they think "other people" in their peer group feel a certain way, it would be naive to assume that the college students were not actually speaking about themselves to some extent. None of the responses was rejected by members of the group, suggesting that even if they themselves knew or believed differently, they could recognize that members of their peer group accepted the statements made. It should be recalled that each item was thoroughly discussed and reworded if necessary before the rank-ordering.

It is also important to remember that these students have been exposed repeatedly to information about safer sex through the university health center's programs, that they attend a research university with very competitive standards, and that they represent a student body drawn from all parts of the United States.

What can college AIDS educators learn from these responses?

A number of groups' suggestions advocate campus AIDS-information classes, speakers, movies, posters, and pamphlets. This indicates that students want and accept this kind of information from campus-sponsored activities.

Many comments reflect the idea that it is "impossible" for students to give up sexual activities. Therefore, one suggestion was made that it would be more powerful to show AIDS as a health risk rather than sex as being "bad."

In spite of "knowing better," the students retain many stereotypes about who can and cannot become HIV-infected or develop AIDS. The idea that typical college students are invulnerable is a recurrent theme (eg, "You can only get AIDS from sex with gross peo-

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TABLE 1
Responses of Freshman Students to Questions About AIDS Suspectibility

Question A. *Why do you think ________ (college name) students don't believe they are very susceptible to the AIDS-causing virus?*

Men

- It's always the other guy.
- Only homosexuals get AIDS.
- Only IV users gets AIDS.
- They are too hedonistic to care.
- They are truly not susceptible.
- They use condoms.
- They're not educated about the facts.
- The AIDS problem is elsewhere.
- No Haitians on campus.
- AIDS carriers are isolated.
- Trust in their partners.
- Invulnerability complex.
- Lots of people use condoms.
- AIDS not prevalent among heterosexuals.

Women

- AIDS is only a homosexual disease; they're not gay.
- They practice safe sex.
- They are infallible.
- AIDS is not on this campus.
- They have only one partner.
- They're not involved with homosexuals or are not homosexuals themselves.
- Low rates of carriers.
- They're educated enough to use discretion.
- They know who they sleep with.
- They are young and rich.
- Their age group is invincible.
- Faith in their partners.

Question B. *What health education measures do you think could be taken to help ________ (college name) students recognize that they are susceptible to the AIDS-causing virus?*

Men

- Promote informational meetings with alcohol or other incentives.
- Discuss the virus during gym sessions.
- Hold informational meetings during freshman orientation.
- Put up informational posters around campus.
- Place advertisements in bars.
- Discourage off-campus sex.
- Promote statistics on "hetero" cases.
- Stuff mailboxes with fliers.
- Conduct symposiums in popular outdoor campus gathering spots.
- Health center doctors should say something about AIDS to each patient.
- AIDS patients answering questions on campus.
- More accessible distribution of free condoms.
- Shock films of victims.
- Experts in field come and speak.
- Free HIV testing.

Women

- Publicize the number of AIDS patients on campus.
- Commercials before previews when movies are shown on campus.
- Use scare tactics/actual cases.
- Information packets and free condoms at registration.
- More programs like this.
- Free testing.
- Have college-aged infected people speak.
- Hold mandatory AIDS education classes.
- Post signs in bathroom stalls.
- Have celebrities with AIDS speak.
- Require AIDS movie.
- Bring in victims of AIDS and their families to show they are "normal."
- Posters and pamphlets.
- Films about college students with AIDS.
- AIDS discussions in programs of health center.

ple"). This suggests that on-campus AIDS-prevention programs should stress the point that anyone can get AIDS (eg, "Bring in victims of AIDS and their families to show they are 'normal' ").

Similarly, students' comments reflect the great concern people in their age group place on their self- and social images and the opinions of their peers. In almost all cases, those self- and social images work against the notion that the students are vulnerable to AIDS. For example, several groups mentioned that in a one-on-one, intimate setting it would be "too embarrassing" to discuss AIDS with a sexual partner. For these students, images of themselves (and their partners) do not include the notion of carrying the HIV virus ("Students here come from good backgrounds, so they won't get AIDS"; "We're young and rich"). These comments strongly indicate that in order to reach these college students, an AIDS-prevention program should stress not only that anyone can get AIDS, but also should state very specifically that "anyone" includes young, rich, healthy college students just like them. Modeling in movies or role plays (for example, how to bring up the "embarrassing" subject of AIDS or condoms) should specifically involve college students. Otherwise.

TABLE 1 (continued)

Question C. *What do you think _________ (college name) students see as the obstacles to following "safer sex" practices?*

Men

They don't think they can catch AIDS from heterosexuals.
They don't want to interrupt coitus, embarrassing, interrupts mood.
Condoms are too expensive, not always available.
People are embarrassed to ask their partners to practice safe sex.
Condoms are "icky."
It can't happen to me.
Condoms don't feel (as) good, lessen male satisfaction.
Too shy to get condoms.
Ignorance of real threat.
Abstinence equals frustration.
Enjoys a lot of intercourse more than (fearing) other possibilities.
"No" is not socially possible; drive is unavoidable.
Condoms are a "hassle" in the heat of the moment.
Masturbation is unfulfilling.
Irrational: they want sex regardless.
Fear of offending partner about sex history.
Unreliability of birth control.
Emphasis on birth control, "the pill."
Sure that their partner is safe.
Intoxication.

Women

Breaks up spontaneity.
Awkwardness in confronting partner about condom use.
Abstinence is out of the question.
Sex is not enjoyable with condoms.
Inconvenient.

Question D. *What health education measures do you think could help remove the barriers _________ (college name) students see in practicing safer sex?*

Men

Education at a young age.
Pamphlets and complimentary condoms in welcome box.
Mandatory AIDS testing.
Show AIDS statistics among college students.
Mandatory sex seminars.
Ready supply of free condoms by mail order.
More information about condoms.
Sex education classes.
More talk sessions.
Dispensers in bathrooms.
Let people see an AIDS victim.
Sex counselors to answer safe sex questions.
More propaganda about high-risk activities.
Information pamphlets and safe sex hotline.
Show AIDS as a health danger rather than showing sex as bad.

Women

Sex education at an early age.
Teach availability and proper use of condoms and various contraceptives.
Increased communication between men and women on points of view and feelings.
Make students aware that they are susceptible to disease/pregnancy.
Free pamphlets.

Misinformation

Men

Girls should use birth control pills.
Students here come from good backgrounds, so they won't get AIDS.
Students don't use hypodermic needles, so they won't get AIDS.
Condoms may cause injury.
Condoms may offend partner.
Foam is too messy.
Haven't had enough exposure to different people to catch it.

Women

The students here aren't on low rent.
Students only sleep with one person, or maybe just a few.
Students here come from Long Island, not New York City.
You can only get it from sex with gross people.
No one our age gets it.

it appears that they are likely to discount the message. Comments suggesting that their outward trappings (young, rich, good backgrounds) would protect these young people from AIDS came primarily from women students.

Many suggestions focus on making condoms readily available. On the sampled campus, condoms are free to any student during regular working hours through the university health center. Even under these circumstances, several comments suggest that students find them too inaccessible. One student even said the expense of condoms was a barrier. The fact that this particular group of students, who have "no questions" access to free condoms, lists their accessibility as a problem suggests that the current distribution system is an incomplete solution.

Some responses are reminders that many misunderstandings can lurk behind apparent knowledge of the facts about AIDS. Only one student did not know the true-false response to the statement, "Using a condom during sex can lower the risk of getting AIDS." It is apparent, nevertheless, that more than one student failed to grasp the reason for using condoms. The suggestion that women use the birth control pill, made by male students, shows a total lack of understanding of the routes of transmission of AIDS. Apparently some students think that all forms of birth control are equally effective against AIDS. Another student said that "foam is too messy." Again, foam alone would not be considered a form of safer sex. These responses remind health educators that the reasons for recommended safer sex practices also must be conveyed.

The number of exposures to the human immunodeficiency virus seems to be a source of some confusion (which may reflect some difficulty even among "experts"). For example, students say they are protected because they sleep with only "a few" people. It would seem advisable, therefore, to emphasize to college students that sexual encounters with multiple partners increase the risk of infection.

One of the group's priority recommendations included the use of alcohol as an incentive to attend an AIDS-information meeting. Alcohol was a topic in several of the groups. Unfortunately, in none of them was alcohol (or drugs) recognized as a disinhibitor that made students more likely to engage in high-risk behaviors. Combining AIDS education with a total program against high-risk behaviors makes sense. Special attention should be paid to the effect of alcohol and drugs.

Several groups suggested presenting AIDS information during freshman orientation and registration (including having condoms in the "welcome box" distributed to in-coming students in the book store).

The question of whether the carrot or the stick is more effective in AIDS prevention was also raised within the discussion groups. How much fear is enough? Too much? A number of groups suggested "scare" tactics such as "shock films of victims." The research is not yet available to answer whether such films would be more effective for AIDS than they have been for other sexually transmitted diseases, but there is little reason to believe so.

The findings show that, in addition to a need for specific information about the HIV virus and its mechanisms of transmission, college students also need education on civil rights and social issues arising from the AIDS epidemic. As future leaders of the generation that will feel the most impact from AIDS in terms of the number of infected people, these students can make themselves stand for positive political and social decisions related to the epidemic. Teaching students to address the moral and ethical dilemmas posed by the AIDS epidemic, as well as the medical ones, seems an appropriate responsibility for the college curriculum.

Campus health educators at other colleges and universities will undoubtedly see additional messages in the comments made by the students. The important underlying message, however, is that talking with students is a good way to learn what they and their college community are thinking about AIDS. While paper-and-pencil questionnaires can provide good initial information and set directions for further research and intervention, personal interaction with students provides insights and in-depth understanding that otherwise would be missed. Routinely following survey questionnaires of students' knowledge, attitudes, and beliefs with nominal group discussions may enable campus health educators to create a better fit between campus AIDS-prevention programs and the special characteristics of succeeding freshman classes. Such a procedure may reveal, as did this study, that although most students have learned many of the "facts" about AIDS, a number of misunderstandings and uncertainties lie behind their apparent sophistication. By continuing to talk with their students, college health professionals can help to correct misconceptions, and in the process can become more effective in preventing the spread of AIDS among this generation.

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INDEX TERMS

Health Belief Model, college students, AIDS

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SOUNDING BOARD

THE HIV EPIDEMIC AND TRAINING IN INTERNAL MEDICINE

Challenges and Recommendations

SINCE the acquired immunodeficiency syndrome (AIDS) was first described in 1981, thousands of papers have been written on all aspects of the disease, from basic virology through social psychology. With few exceptions,[1,2] however, little has been said about the effect of AIDS on medical education. This paper considers several levels at which the human immunodeficiency virus (HIV) epidemic poses a challenge to medical education and proposes a set of responses with which training programs in internal medicine can better incorporate and accommodate this new disease.

VISIBLE ISSUES

"I'd just as soon not take the risk"

Apprehension about the occupational transmission of HIV is a major consequence of caring for HIV-infected persons among medical personnel at all levels of training. Medical students assume that their inexperience puts them at higher risk for accidents with sharp instruments and believe, with reason, that they have little control over the degree of risk that they must take. Among medical residents, apprehension about occupational transmission is universal. In New York, 48 percent of medical house officers reported a moderate-to-major concern about acquiring AIDS from their patients,[3] whereas in San Francisco 91 percent of house officers in internal medicine described themselves as at least mildly anxious about caring for patients with AIDS.[4] Although these extreme fears may have subsided at hospitals more experienced in treating AIDS, exaggerated nightmares, obsessive rumination, and guilt remain common at institutions where such patients are seen for the first time. Concern about the risk of occupational transmission of HIV is intensified by the fact that for decades personal danger has not been an aspect of medical practice. Many physicians do not know how to assimilate an element of risk into their professional lives.

"Too many patients with AIDS will dilute my training"

The content of medical training in settings with a high number of patients with AIDS has become a source of concern for program directors and residents.[1] In a New York survey, 40 percent of medical students endorsed the assertion that AIDS affected residency training adversely.[5] This may simply be a more personally or socially acceptable way of expressing resistance to caring for infected persons, but clearly a program that serves HIV-infected persons exclusively would not present trainees with an adequate breadth of experience.

What is an adequate or optimal patient mix for training? There have always been differences in the training experiences provided in different settings, the contrast between urban public hospitals and university hospitals being especially marked. Changes in the frequency of common diagnoses at any training site affect trainees differently at different levels. A junior clerkship in medicine, intended to expose students to principles of diagnosis and management in internal medicine, may be less sensitive to patient mix than a fellowship or advanced rotation for residents in a

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subspecialty, a situation in which experience with patients with a range of diagnoses is essential to learning.

"Too many patients with AIDS will drive away good applicants"

High levels of exposure to AIDS may affect the competitiveness of medical schools and training programs in the recruitment of students, residents, and fellows. This is a charged issue. The negative comments about AIDS that medical students hear during interviews at programs that have few patients with AIDS and the appearance of misstatements in print[9] increase the anxiety that is felt in programs with many such patients. In surveys conducted at the University of California at San Francisco after students are matched to residency programs, candidates who choose other programs fail to specify AIDS as the reason, even on a questionnaire with forced-rank items.[7] The quality of our applicant pool, as assessed on the basis of class rank and the vigor of endorsement by the candidate's medical school, has not changed since the AIDS epidemic began. However, some academically qualified students probably do not complete applications because of a disinclination to care for HIV-infected patients. The degree of such early selection away from training programs with a high prevalence of patients with AIDS is harder to measure. It seems likely, as well, that recruitment efforts will be more vulnerable in programs that lack a desirable geographic location and a strong academic reputation to offset the perceived liabilities of caring for patients with AIDS. The overall competitiveness of internal medicine with other medical career paths is a parallel concern. The declining preference for residencies in internal medicine and the selection of disciplines such as ophthalmology and anesthesiology by the most academically competitive fourth-year students has been attributed in part to AIDS. Other factors may be responsible, but it is difficult to tease out the elements in a complex career decision.

HIDDEN ISSUES

"Caring for AIDS patients is hopeless"

The large number of people affected by AIDS, the inexorable progression of the disease, and the suffering of the patients provoke feelings of frustration, grief, and hopelessness in providers at all levels of training.[1,2,8] Psychological need and the presence of a poor support system may intensify these responses. House officers at training sites where patients with AIDS are prevalent commonly say that "all the patients have AIDS." In 1986 the caseload of a medical resident at San Francisco General Hospital was reported to be "often more than 50% AIDS-related,"[2] although continuous monitoring of the inpatient census demonstrated that patients with AIDS typically made up 20 percent and never more than 25 percent of the medical service. This inflated perception of the volume of AIDS care may reflect the fact that patients with AIDS provoke anxiety and distress in health workers and are perceived as being more demanding, resistant, withdrawn, and difficult to care for.[9]

"The people who get AIDS are hard to like"

Anxiety about homosexuality,[10,11] prejudicial attitudes toward intravenous drug use, and discomfort with minorities may all increase a trainee's sense of danger and reduce empathy.[12] Male residents perceive a higher risk of occupational transmission of HIV and experience more anxiety than women residents when the population with AIDS is gay or bisexual,[8] but not when the population consists of intravenous drug users.[3] Patients who are drug addicts raise other distressing issues for their care providers, however. To the extent that perceptions of risk are fueled by grief, despair, psychosexual concerns, and a sense of alienation from the patient, instructing trainees about nosocomial epidemiology will not resolve their apprehension.

"What is my moral obligation?"

Uncertainty about the responsibilities of medical professionals is another problem impeding the incorporation of experience with HIV disease into medical training.[13] Medical students, who have not had the chance to absorb the values of the medical profession, are particularly vulnerable to uncertainty and conflict and have refused on occasion to care for HIV-infected patients.[14] Discussions of the physician's responsibility often become highly polarized, with idealists on one side asserting that physicians should never consider risk when providing medical care and libertarians on the other proclaiming the right of everyone, including physicians, to protect themselves from harm. Many trainees, working in settings in which no one can articulate the complex medical ethic and where prestigious faculty members see few patients, are deprived of the example of practitioners resolving the tensions between perceived personal risk and potential benefit to the patient.

SOME RECOMMENDATIONS

Training programs have differed substantially in their degree of interest in and commitment to people infected with HIV. Before the problems of trainees can be addressed, such programs must clarify their own attitudes toward the care of those with AIDS. The benefits to training programs of making a commitment to AIDS care should not be overlooked. Overemphasis on technology, excessive subspecialization, fragmentation of patient care, inadequate case-management skills, and loss of the humanism conventionally associated with "old-fashioned" physicians have been lamented in the lay and medical presses. The care of HIV-infected persons offers opportunities for the consideration of appropriate technologic approaches, experience in collaboration with nonphysician colleagues, and a chance to appreciate the healing potential of the doctor–patient relationship from the physician's side, even when technology cannot produce a cure. In addition, the growth in scientific knowledge generated by the AIDS epidemic in the fields of basic microbiology, immunology, infectious diseases, oncology, and pulmonary medicine is exciting and unprecedented. Integrating reports of such breakthroughs into ward rounds and conferences can make caring for the patient with AIDS intellectually stimulating as well as emotionally gratifying. Finally, the Association of American Medical Colleges,[15] the American Board of Internal Medicine,[16] and the American College of Physicians[17] have all asserted that HIV disease must be incorporated into training in internal medicine, rather than kept out.

Open Discussion of the Impact of AIDS

Discussions of the impact of AIDS care on training programs must become more forthright and must involve medical students and current trainees. Some programs with a high number of patients with AIDS have been reluctant to be identified with the disease, making it difficult for applicants for training to obtain information on case mix. At such programs, the role of trainees in the care of patients with AIDS should be discussed as a matter of course during interviews, and information should be supplied to prospective medical students about the characteristics of the patients who will provide the basis for clinical training. At the same time, programs in which patients with AIDS are less prevalent must resist the temptation to tout their attractiveness in comparison to centers where such patients are found in greater numbers. Failure to incorporate AIDS training into programs in internal medicine results in students' and residents' being inadequately prepared for the patient population they will inevitably face. Medical schools, residencies, and fellowship programs should keep track of the clinical experience trainees receive by maintaining a record of the principal diagnosis of each inpatient and outpatient cared for by each trainee. In programs in which patients with AIDS are prevalent, an objective record might counteract the tendency to inflate reports of the volume of AIDS care but would not determine the point beyond which the representation of a single diagnosis becomes detrimental. The empirical establishment of an optimal case mix would require an assessment of the outcome of training, but is unlikely to be definitive, since success in training reflects numerous factors that are more important than the precise number of patients cared for with a particular diagnosis. The question of educational balance does require more consideration, however; organizations such as the Association of Program Directors in Internal Medicine, the American Board of Internal Medicine, and concerned subspecialty societies could collaborate on appropriate goals for clinical experience.

Material Support

Competence in the practice of infection control is obligatory for trainees in internal medicine and should be reinforced by regularly scheduled instruction sessions. Training programs must collaborate with hospitals to monitor compliance actively and ensure the availability to everyone of all the equipment they need to follow infection-control guidelines. Procedures should be developed for the treatment of exposures to HIV through the skin and mucous membranes. Hospitals and programs that care for HIV-infected patients need a person available at all times who can advise students, residents, and fellows, as well as nurses and other care personnel. The University of California at San Francisco and San Francisco General Hospital have developed a streamlined procedure for alerting the contact person, discussing the degree of risk posed by a particular accident, and obtaining prophylactic treatment when it is indicated.

Medical schools, residencies, and fellowship programs should consider their responsibilities toward trainees with respect to insurance. Whereas trainees typically carry some form of health insurance, most have little or no life and disability insurance, even those with young families. Workers' compensation is inadequate as the sole insurance for trainees: it contains no provision for pain and suffering, undercompensates long-term disability and death, and ignores future increases in earning power. Medical students are ineligible for workers' compensation because they are not salaried.[18] All trainees need information about insurance. Group insurance with payroll withholding for residents and fellows should be encouraged, and medical students may require insurance subsidies. Anxiety about distinguishing occupational from nonoccupational HIV infection should not impede the development of appropriate programs. The experience to date argues that sequential HIV-antibody testing beginning at the time of an occupational accident is sufficient to establish causality. Finally, departments, hospitals, and medical schools should develop and publicize policies on occupational infection so that trainees need not fear that the disaster of HIV seropositivity would be complicated by an adversarial struggle with the institution providing their training.[19]

Although the structure of care delivery necessarily reflects local conditions, certain organizational strategies can be helpful. These include mixed services in which the care of HIV-positive patients is integrated with that of patients receiving general medical care, outpatient care for patients with AIDS by nonspecialist faculty and residents, close coordination of inpatient and outpatient care, and the ready availability of consultants who are highly competent with regard to AIDS. When clinical services are mixed in these ways, medical students and residents are spared unrelenting exposure to the psychological burdens of AIDS care, and the care of patients whose treatment is more routine and less emotionally laden counterbalances the care of patients with HIV-related disease. Involving trainees in the ambulatory care of those with HIV offers them the advantage of seeing patients who are vigorous and functional. It also fosters the development of empathic long-term relationships and expertise in the increasingly important area of management of early HIV disease. The coordination of inpatient and outpatient care relieves stressed inpatient physicians of the sole responsibility for such complex and difficult issues as the determination of overall medical strategy and preferences about resuscitation.

The question of diverting patients with AIDS away from trainees in the interest of maintaining an educational balance is problematic. Strategies in which patients with HIV-related disease are diverted at a predetermined threshold of illness from teaching services to nonteaching services or to hospitals without house staff have been unacceptable to patients and their outpatient physicians and may appear to condone the evasion of AIDS care. For medical students and residents, the discussion of how to achieve and maintain educational balance should follow, not precede, a consideration of case mix and educational balance itself. At the fellowship level, AIDS clearly has the potential to overwhelm standard subspecialty training, particularly in infectious diseases. The establishment of clinical AIDS fellowships and AIDS consultation rotations has been helpful in preserving the character of this subspecialty in programs with a high prevalence of patients with AIDS.

Emotional and psychological support for trainees in medicine is more important in the AIDS era than ever before. Compassion and empathy are among the primary characteristics required of internists by the American Board of Internal Medicine.[20] However, compassionate care requires an institutional framework "that provides both the necessary resources and appropriate environment for such care."[21] The fundamental requirements are a concerned and responsive program, supportive personal relations among faculty and trainees, a reasonable on-call schedule, and adequate time off. Proponents of the medical humanities believe that the discussion of values in medicine promotes the development of empathy. To be acceptable to trainees, the medical humanities must be integrated skillfully into medical training by persons with academic and clinical credibility. The example of the clinician-teacher providing hands-on AIDS care may be as powerful as classroom discussions of values. Help is clearly needed in managing the specific psychological stresses of HIV care, but there is little information on how to provide it. Seminars with a substantial psychological component have been successful, at least with self-selected students.[22] The development of useful and acceptable interventions is an important area for investigation.

CONCLUSIONS

The HIV epidemic has affected the experience of training in internal medicine dramatically, forcing us to confront the implicit purpose of clinical education. If training is viewed only as a process in which trainees are exposed to a variety of patients so that they can develop technical skills, the care of those with AIDS may be seen as detrimental. If clinical training sets out to foster both compassion and skills, then the epidemic challenges our educational system at all levels. An element of risk must be incorporated into our understanding of medical practice without the endorsement of panic or avoidance; this appreciation of risk must be accompanied by well-conducted and universally observed programs of infection control and widely available disability benefits and life insurance. The care of persons with AIDS should be organized so that the need for the compassionate care of any ill person is seen as a matter of course; prejudicial attitudes that increase the stress of patient care must be examined and reduced; the care of HIV-infected patients should be structured so that trainees have the opportunity to provide continuing outpatient as well as inpatient care to gravely ill persons. The content of education in internal medicine must be monitored; AIDS fellowships and clerkships may be desirable, to provide an adequate level of sophistication in locations serving many patients with AIDS and to preserve the traditional character of the subspecialty of infectious diseases. The grief and pessimism engendered by caring for patients with AIDS must be recognized and explored. Preventable stress due to overwork, lack of sleep, and the impairment of supportive personal relationships should be confronted and relieved by reforms in training. Many of these proposals are valid independently of AIDS; perhaps the HIV epidemic will provide the impetus for their implementation.

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17. Health and Public Policy Committee, American College of Physicians. The acquired immunodeficiency syndrome (AIDS) and infection with the human immunodeficiency virus (HIV). Ann Intern Med 1988; 108:460-9.
18. Brennan TA. The acquired immunodeficiency syndrome (AIDS) as an occupational disease. Ann Intern Med 1987; 107:581-3.
19. Aoun H. When a house officer gets AIDS. N Engl J Med 1989; 321:693-6.

20. Subcommittee on Evaluation of Humanistic Qualities in the Internist. American Board of Internal Medicine. Evaluation of humanistic qualities in the internist. Ann Intern Med 1983; 99:720-4.
21. Friedland G. AIDS and compassion. JAMA 1988; 259:2898-9.
22. Goldman JD. An elective seminar to teach first-year students the social and medical aspects of AIDS. J Med Educ 1987; 62:557-61.

362

STUDENT EDUCATIONAL ISSUES

Additional Resources

CDC RECOMMENDATIONS, GUIDELINES AND UPDATES

"Guidelines for Effective School Health Education to Prevent the Spread of AIDS," MMWR January 29, 1988.

""HIV-Related Knowledge and Behaviors Among High School Students -- Selected U.S. Sites, 1989," MMWR June 15, 1990.

Educational Materials Database: Reference Search, U.S. Department of Health and Human Services, Public Health Service, CDC (1990).

This publication lists numerous AIDS educational materials. Abstracts of the materials are given together with information on how to order them.

AMERICAN COLLEGE HEALTH ASSOCIATION MATERIALS

AIDS on the College Campus: ACHA Special Report.

This Special Report was produced by the Task Force on AIDS of the American College Health Association. It addresses issues such as housing, educational priorities, HIV testing, and confidentiality. Copies can be obtained from the American College Health Association, 1300 Piccard Drive, Suite 200, Rockville, Maryland 20850; 301/963-1100.

"AIDS Info On-Line: A Computer-Based Information System for College Campuses," 39 Journal of American College Health 90-94 (1990).

"Using Peer Educators for a Classroom-Based AIDS Program," 39 Journal of American College Health 96-99 (1990).

MEDICAL STUDENTS AND RESIDENTS

"Risk of HIV Exposure to Medical Students and Health Care Personnel." 264 Journal of the American Medical Association 1187 (1990).

"Physicians in Training and HIV," 322 The New England Journal of Medicine 1392-1393 (1990).

"A National Study of AIDS and Residency Training: Experiences, Concerns, and Consequences," 114 Annals of Internal Medicine 23-32 (1991).

SAMPLE POLICIES

- General Campus Policies
- Health Sciences Campus Policies

________ University Statement on AIDS
Spring 1988

University recognizes the serious threat to our society posed by the AIDS epidemic. is committed to a policy of preventing the spread of the AIDS virus and assisting any whose lives are affected by AIDS. To these ends, the following goals are adopted.

1. With a firm commitment to biblical teachings, actions and policies will be based upon current and reliable information. The AIDS phenomenon is complex, and new information is being made available daily. The University's goal is to remain abreast of current data and research and use this information in shaping its policies. Such information will be shared in a way that affirms the importance of the Christian ethic and demonstrates University's concern to save lives.

2. A vigorous program of education for all segments of the University community will be pursued. Efforts already begun will be expanded to permit the entire University community -- faculty, staff, and students -- to have access to reliable information. This information should assist all individuals in meeting their responsibility to protect themselves and others, to minister to those affected by AIDS, and to act as responsible citizens within the larger society. Emphasis will be placed upon open, honest and constructive dialogue throughout the University.

3. The educational effort will be marked by both a clear affirmation of Christian teachings on sexual morality and the dangers of drug abuse, plus accurate medical and sociological data. The clear message will be that sexual abstinence outside of marriage, sexual fidelity within marriage, and the avoidance of intravenous drug abuse are the only morally correct and medically safe ways to prevent the spread of AIDS.

4. Additional policies and procedures, consistent both with Christian and educational standards of the University and with protection of individual rights, will be adopted as necessary to address the basic purpose of preserving good health. Any confidential medical information about an individual will be handled in compliance with legal requirements and professional ethical standards.

5. The University Health Center will be guided by the recommendations of state and federal public health agencies and the American College Health Association.

6. The community will seek in all prudent ways to witness to God's love by ministering to persons with AIDS, their families, and their friends, as they face the hardships and certain death associated with this disease. We will seek to incarnate God's comforting, supporting, and forgiving presence.

7. A standing committee will be established to direct the University's continuing effort to deal with the challenges and threat of AIDS. The committee will be broadly representative of the University community and will be charged with directing the educational effort and recommending any adjustments in University's policies or practicies that may be indicated by new information.

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C. STATEMENT ON AIDS AND OTHER COMMUNICABLE DISEASES

Although this statement was prompted by the current concern about the Acquired Immune Deficiency Syndrome (AIDS), it is intended for application in cases of any communicable disease occurring on campus such as cases of the more serious communicable diseases including tuberculosis, hepatitis, chronic diarrhea states, and salmonella carriers. The focus on AIDS (and AIDS-related diseases) is necessary due to existing confusion regarding what is currently known about the disease and its transmission. It should be noted that, in fact, AIDS is transmitted through exchange of certain risk body fluids, and not through casual contact.

Any Idaho State University student or employee with a positive antibody test for AIDS exposure, or with the actual disease itself, shall not be discriminated against or denied access to the university experience. Every effort also must be made to protect the privacy of the individual.

1. Persons having AIDS, or a positive antibody test for AIDS shall be treated as any other student or employee on campus with guidance from the Idaho Code Regulations on communicable diseases (I.C. 39-601 et.seq.).

2. It is strongly recommended that the University Medical Director be informed of any existing communicable disease. Each reported incident will be handled on a case by case basis, with respect for the person's right to privacy, and with consideration for protecting his/her own welfare as well as the welfare of others.

3. Each campus department involved in contacting or handling blood or certain risk body fluid, or in which there is a potential for exchange of certain risk body fluids, shall develop individual policies and procedures concerning potential

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contact with communicable diseases. There will be a central file of all departmental policies and procedures maintained in the Center for Health & Counseling Services.

4. It is the responsibility of the department head to ensure annually that all employees are aware of the University statement of AIDS and any departmental policies and procedures concerned with communicable diseases. The Student Affairs Office shall disseminate information regarding the University statement on AIDS to students. Students participating in course work or activities in academic departments where there exists a reasonable potential for the exchange of certain risk body fluids shall be made aware of any departmental policies and procedures concerned with communicable diseases by the responsible faculty or staff member.

5. This statement and associated guidelines will be reviewed and revised on a regular basis according to new information. The responsibility will be assumed by the Campus Education Committee on AIDS.

6. The ISU Center for Health and Counseling Services shall provide counseling to assist students or employees who have AIDS or related illnesses.

7. The Campus Education Committee on AIDS shall coordinate and implement education programs to inform all campus constituencies about AIDS and its transmission.

(Rev. 12-90)

AIDS

in the WORKPLACE

This brochure has been put together to provide the Stanford Community with information about the Acquired Immune Deficiency Syndrome (AIDS). It is estimated that by the early 1990's 90% of the two million Americans who have been exposed to the virus will develop AIDS. AIDS affects everyone — including people who are a part of the Stanford Community. Misinformation and fear of this disease can lead not only to the further spread of the disease, but also to discrimination. It is important to the University that we maintain a workplace which is free from discrimination, including against people with the HIV virus.

The University believes that the rights and concerns of those who have AIDS, Aids Related Complex (ARC), or the HIV virus should be respected and ensured. Education, understanding and compassion on the part of every faculty and staff member are crucial if we are to deal effectively and responsibly with this issue.

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Guidelines
for
Stanford
University

WHAT IS AIDS?

Acquired Immune Deficiency Syndrome (AIDS) is a serious condition characterized by a defect in the natural immunity against disease. This defect is caused by infection with the Human Immunodeficiency Virus (HIV). Typically a person has no symptoms of AIDS for years after contracting the HIV infection, but then develops unusual infections or tumors not usually seen in otherwise healthy persons. The disease we call AIDS is the end stage of the chronic HIV viral infection. It is important to remember that AIDS itself is not transmitted; the HIV virus is.

HIV infection may be present in an individual in three ways:

Persons may have no symptoms but be **HIV positive** which means that they have been exposed to the virus and carry it in their system. Although they have not developed any of the illnesses or infections associated with AIDS, it is possible for them to pass the virus on to other people.

Persons may have **AIDS Related Complex (ARC)** which means that they have developed some symptoms of chronic HIV infection such as swollen lymph glands, night sweats, diarrhea or fatigue. They have not developed one of the life-threatening diseases that characterizes AIDS. In time, most if not all persons with ARC will progress to the full-blown disease, AIDS.

A person has **AIDS** when the defect in his or her immune system, caused by chronic HIV infection, has progressed to such a degree that an unusual infection or tumor has occurred. In AIDS patients, a number of diseases are known to take advantage of the damaged immune system. These include "opportunistic" infections with other viruses, fungi or parasites, or the development of tumors such as Karposi's sarcoma, a form of skin cancer, or lymphoma, a malignancy of the lymph glands. It is the presence of one of these "opportunistic" diseases that establishes the medical diagnosis of AIDS.

The AIDS virus is not transmitted through casual contact. You cannot get AIDS from daily and routine activities such as sitting next to someone or shaking hands with someone who has AIDS, or from working with people who have AIDS. It is not spread by insects or insect bites. AIDS is not transmitted by swimming pools, public transportation, food, cups, glasses, plates, toilets, water, air, touching or hugging, coughing or sneezing.

AIDS is transmitted in four general ways:

1. Through intimate sexual contact from an infected person to his or her sexual partner, when semen, blood or vaginal fluids are exchanged.

2. Through infected blood or blood products. The risk is vanishingly small now that all blood donors are screened for the presence of HIV antibodies. ***You cannot get AIDS from giving blood.***

3. Through contaminated needles or any other HIV contaminated skin-piercing instrument.

4. From an infected mother to her infant before, during or shortly after birth.

People who have the virus present in their system, but have no physical symptoms of ARC or AIDS are capable of transmitting it to others.

WHAT ARE THE CHANCES OF GETTING AIDS AT WORK?

With the exception of health care workers who might come into direct contact with blood or other bodily fluids from persons infected with the virus and for those working in laboratories where research with the HIV virus is being conducted, there is no known risk of transmission of the AIDS virus in work settings such as exist at Stanford University.

Transmission of the virus to health care workers and to workers in research laboratories where highly concentrated virus was under study has occurred, but the number of such incidents is very small. Universal Precautions in health care settings and proper training and experimental procedures in the laboratory will effectively eliminate this risk.

The AIDS virus cannot be passed through the air. Sneezing, breathing, or coughing does not spread AIDS. Objects in the workplace, such as typewriters, phones, pencils, door knobs, public toilet seats and paper, do not transmit the AIDS virus. No cases of AIDS have resulted from casual contact. Even when children have played, eaten, slept, kissed and fought with a brother or sister with AIDS, none has been infected.

There need be no fear of contracting AIDS from another person with whom you work.

EMPLOYEES DIAGNOSED WITH AIDS

The decision whether and when to disclose the diagnosis to others is a very personal one for the persons with AIDS, ARC or who are HIV positive. As in the instances of other diagnoses of terminal illness, some people with fully developed AIDS choose to disclose the illness to supervisors and co-workers and some do not. According to California law an employee's medical diagnosis is personal information and such information, if known by the employer, shall not be released without the employee's permission. The law does provide for some exceptions, for example, when the health plan or disability plan administrator needs to verify a claim for disability or other compensation. In all cases of illness, including AIDS, the employee's supervisor may not request or require a diagnosis to discern a particular illness, except as required for accommodation arrangements or to process medical disability claims.

The employee may be asked for a physician's certification, at University expense, as to whether the employee is able to work, whether there are limitations on work due to illness or the amount of time needed for recuperation. If the employee discloses the illness, supervisors are expected to respond just as they would for any other serious illness. In the event that the employee is not able to continue working, he/she is eligible for accumulated sick leave, disability payments, and other medical leave to the extent provided for by current University policy.

BENEFITS COVERAGE RELATED TO AIDS

The Benefits Office, located at 855 Serra Street, can assist you with claims for short and long term disability, and with health insurance information. All medical information is held in confidence as provided by California law. Managers, supervisors and co-workers do not have access to an employee's medical information. An employee with AIDS is the one who decides when or if supervisors or co-workers will be made aware of the nature of their disability condition.

6 Health Plans

All Stanford health plans cover AIDS, ARC or other AIDS-related illnesses the same as any other illness, disease or injury. Under Health Maintenance Organizations (HMO's) the primary care physician must coordinate all health care. The employee must obtain a referral from the primary care physician before making an appointment with another physician or service provider, or other health care specialists. New drugs and treatments are sometimes considered "experimental" and may not be covered. Employees should consult with the individual plan before receiving treatment.

Testing

Testing is covered by all Stanford health plans when the physician decides that it is medically necessary. Health plan coverage of testing is not limited to "high risk" groups. All testing and treatment is confidential as provided by California law.

Anonymous testing is available in the community through the American Red Cross, county health departments and other groups and agencies. The AIDS hotline numbers listed in the back of this brochure can refer you to a testing site near your work or home.

Disability Plans

All Stanford Disability plans treat AIDS the same as any other illness or disease. Testing HIV positive or being diagnosed with AIDS or ARC does not mean that a person is disabled or eligible for disability benefits. Disability begins when illnesses and complications from the virus render the employee unable to work, as determined by a physician. Disabling conditions may include, but are not limited to, pneumonia, severe fatigue and repeated infections.

Disability claims are administered by Adjustco, Inc. Adjustco and/or the Benefits Office will not release diagnosis or treatment information to supervisors, managers or co-workers. The Benefits Office will work with employees and Adjustco to assure the appropriate benefit is paid.

DEPARTMENT HEADS, ADMINISTRATORS, SUPERVISORS AND CO-WORKERS OF EMPLOYEES WITH AIDS

Department heads are responsible for ensuring that the most current information about AIDS, ARC and the HIV virus and its transmission is available to faculty and staff in their departments. They should also be knowledgeable about specially trained people who can be called upon to answer employee questions. A list of resources is included in this brochure. If a supervisor has an immediate need for assistance or guidance, the Employee Relations Section of Human Resources Services may be contacted as a first resource.

Should an employee express concern about working with a co-worker who has AIDS, ARC or the HIV virus, or who is a member of a high risk group, the supervisor should arrange for that employee to talk to an expert resource to try to allay the concern. If the employee is still concerned, the supervisor may suggest that the employee seek a transfer to another job.

Because the AIDS virus is not transmitted in normal work settings, employees do not have a right to reassignment when they are uncomfortable about working with a person with AIDS, ARC or the HIV virus.

Employees should be aware that, if warranted, reasonable accommodation for employees with life-threatening illnesses may be made consistent with the business needs of the work unit.

Because there is no evidence that the AIDS virus can be transmitted via work relationships, Stanford will not:

- Ask applicants for employment nor current employees if they have AIDS, ARC, the HIV virus or if they are a member of a high risk group, except as permitted by law.
- Make a decision regarding hiring, continued employment or promotion based on the suspicion that a person has AIDS, ARC, the HIV virus or is a member of a high risk group.
- Require anyone to take a test for AIDS as a condition of employment.

In addition, an applicant or current employee who volunteers that he or she has AIDS, ARC, the HIV virus or is a member of a high risk group will not be discriminated against in any employment decision. The relevant question is whether the person can perform the job.

To protect the health of our employees with AIDS or ARC, supervisors should be sure to inform the employee if they believe that the working environment is one with greater than normal risk of exposure to infectious agents, such as in certain laboratories, child care settings and in certain parts of the hospital or clinic setting. The employee should be encouraged to review the circumstances of the work environment with his/her physician. This is of particular importance when the employee's work activities have the potential for inadvertent transmission of his or her bodily fluids to others.

THE IMPORTANCE OF INFORMATION

We believe that the best defense against AIDS is information. Unfounded fears, speculation and misinformation need to be countered with informed, rational and thoughtful information, advice and counseling. While supervisors and administrators have special responsibilities in this regard, everyone can help. When in doubt, you may talk with your supervisor, department administrator, staff affairs officer or one of the resources listed in this brochure. They are eager and willing to help.

If you would like to discuss formal training programs for your workgroup or department about AIDS, you should contact the Human Resources Development Department at 723-0657.

WASHINGTON UNIVERSITY HILLTOP* CAMPUS POLICY ON AIDS

AIDS (Acquired Immunodeficiency Syndrome) is a serious public health problem. Estimates reported by the Centers for Disease Control ("CDC") suggest that in 1990 approximately 1 million living persons in the United States were infected with HIV (human immunodeficiency virus), the virus shown to be the cause of AIDS. While the prevalence of HIV infection in a university population may be low, HIV infection and AIDS can appear on any campus, including the campus of Washington University. Washington University is therefore committed to having educational programs and institutional policies which respond appropriately and effectively to the epidemic. Such programs and policies shall be guided by the recommendations of the U.S. Public Health Service, the CDC and the American College Health Association and by the University's due regard for both public health interests and individual rights.

EDUCATIONAL PROGRAM

The first response of colleges and universities to the epidemic of HIV infection must be education. Washington University, therefore, is committed to educating its students, faculty and staff about AIDS and HIV infection. The primary purposes are to (1) prevent the spread of infection by supporting positive behaviors that reduce the risk of infection; and (2) provide support for those who are infected with HIV. These educational goals should emphasize the distinction between the real risks of HIV transmission and unnecessary concerns based on false assumptions regarding HIV infection.

Washington University AIDS Education will emphasize the following:

1. Even though they may not have symptoms, individuals with HIV infection may transmit the virus to others through intimate sexual contact or exposure to blood.

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*Washington University has two campuses--(1) the Hilltop Campus which is west of Skinker Boulevard and the site of all Schools of the University except the School of Medicine and the School of Dental Medicine, and (2) the Medical Campus which is east of Kingshighway Boulevard and the site of the School of Medicine and its allied health professions programs and the School of Dental Medicine. This Policy Statement applies only to the Hilltop Campus and its students, faculty and staff.

Promulgated June, 1990

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2. Among individuals who choose to be sexually active, the consistent and conscientious use of condoms and spermicides containing nonoxynol-9 greatly reduces the chance of transmission of HIV through sexual intercourse.

3. The sharing of needles (such as needles used in the injection of illicit drugs or steroids) is one way to transmit HIV; such sharing must be avoided.

4. Individuals with documented HIV infection, and those with behavioral risk factors for HIV infection, should not donate blood, plasma, sperm, or other tissues or organs.

5. Individuals with HIV infection pose no risk of transmitting the virus to others through ordinary, casual interpersonal contact, such as occurs in the usual academic or residential setting.

6. It is possible that certain interventions and therapies may help limit the consequences of HIV infection among individuals already infected. Individuals who know they have been infected may thus benefit from regular medical follow-up and immunologic evaluation.

7. Individuals with HIV infection should be treated with support and understanding and with concern for their privacy and confidentiality.

AIDS education will be promoted on campus. Some examples are: a mailing sent to all members of the University community detailing what is known about the virus and methods of prevention; special lectures, symposiums, and workshops on the topic; inclusion of the topic in appropriate curricular offerings; publication of a series of articles in the student newspaper; presentations to resident students, fraternities and sororities, and other student special interest groups; the maintenance of condom machines on campus and the distribution of the Surgeon General's Report or other pertinent brochures.

AIDS education will be a cooperative effort including students, faculty, and administrators representing all segments of the campus community. The Washington University Committee on AIDS and the AIDS Task Force are two existing groups whose purposes include the promotion of AIDS education.

HILLTOP CAMPUS POLICY

The medical, scientific and legal understanding of AIDS and HIV infection is still evolving. In order to respond to the challenges of HIV infection with sensitivity, flexibility and the best and most current medical, scientific and legal information available, it is the policy of Washington University to review, evaluate and respond on an individual case-by-case basis to any known instances of HIV infection among the members of the University community. Such individual review, evaluation and response shall, at a minimum, take into consideration applicable federal and state laws; the recommendations of the U.S. Public Health Service, the CDC and the American College Health Association; other relevant medical, scientific and legal literature; the expressed desires and opinions of the individual with HIV infection and of such individual's personal physician; and the University's commitment to the protection, to the extent possible, of both the public health and individual rights.

In light of this individualized response policy, it is impossible to promulgate rules which bind the University to respond in a predetermined way when faced with a case of HIV infection within the University community. It is possible, however, to set forth some general principles which will guide the University in its deliberations. These principles, which will be reviewed periodically and revised as necessary to reflect new information regarding HIV infection, are as follows:

1. Basic Approach. The University must address AIDS issues in a sensitive and responsible manner.

2. Participation in University Programs. No otherwise qualified individual should be prohibited from participating in any University program or activity as a result of his or her being infected with HIV.

3. Admissions. The presence of HIV infection should not be part of the admission decision for any individual applying to the Schools and Colleges of the University which are based on the University's Hilltop Campus.

4. Classroom Attendance. Individuals with HIV infection should not be restricted from regular classroom participation as long as they are physically and mentally able to attend class.

5. Access to Campus Facilities. Individuals with HIV infection should not be restricted from access to campus dining facilities, the Mallinckrodt Center, the Athletic Complex, or other similar common areas.

6. Participation in Athletics. Individuals with HIV infection are encouraged to seek medical advice before participating in programs requiring vigorous physical activity to ensure that such activity will not have an adverse effect on their health. Individuals should not be restricted from participating in the University's intercollegiate, intramural, club sport, recreation or physical education programs because of HIV infection as long as, from a medical perspective, they are physically and mentally able to participate in such programs.

7. Employment. Faculty and staff with HIV infection should not be restricted from regular employment activities as long as they are physically and mentally able to perform their job duties in a satisfactory manner and do not pose a risk to the health or safety of themselves or of others.

8. Residence Hall Housing. The presence of HIV infection should not be a factor in determining whether to assign a student a room in one of the University's residence halls. HIV infection may, however, be a factor in determining what kind of room to assign to a student. Currently available medical information indicates that HIV infection cannot be contracted merely by sharing a dormitory room with an infected person. Thus, a non-infected student has no reasonable basis for concern about sharing a room with an infected person. From the perspective of an infected student, however, there may be a reasonable basis for concern about sharing a dormitory room with anyone because sharing a dormitory room may increase the student's risk of being exposed to certain contagious diseases (e.g., measles, chicken pox, infectious mononucleosis) which occasionally appear on campus. These diseases are more dangerous for HIV-infected students because such students frequently have depressed immune systems. Accordingly, decisions about the kind of residential housing to assign to a student with HIV infection should be made on a case-by-case basis. When requested, such students may be assigned private (single) rooms in order to protect the health of such students--not to protect other students from them.

9. Confidentiality. The University recognizes the importance of protecting to the greatest extent possible the confidentiality and privacy of any student, faculty member or staff member found to have HIV infection. Accordingly, such information should be handled by University personnel with the same degree of care and sensitivity as is accorded to other types of highly confidential medical information.

   As with other medical conditions, no information concerning the health status of a specific identified student with HIV infection should be provided by the Student Health Service to faculty, staff (including administrators), outside third parties, other students, or even the student's family, without the student's express written consent. Exceptions to this general rule may be made, however, to the extent required to protect the public health or otherwise required or permitted by law. To guard against the accidental disclosure of medical information indicating that a student is infected with HIV, such information will be stored in a file located separate and apart from the general medical record room of the Student Health Service.

   The number of persons within the University to be advised of the existence and/or identity of a student, faculty member or staff member with HIV infection should be kept to an absolute minimum, both to protect the confidentiality and privacy of the infected person and to avoid the generation of unnecessary anxiety among other students, colleagues, and/or co-workers. Determining who does or does not have a legitimate and significant need to know about a particular case of HIV infection is not always easy, however. The Washington University Committee on AIDS is available to assist any member of the University community needing guidance on such matters.

10. HIV Antibody Testing. The University will not engage in the mandatory testing of its students, faculty or staff for the presence of antibody to HIV. Any member of the University community desiring HIV antibody testing, however, is encouraged to contact the Student Health Service for information about testing services available in the St. Louis area. All requests for counseling and/or referral for HIV testing will be protected by the principles of confidentiality described in Section 9 of this Policy. The Student Health Service will refer individuals seeking HIV antibody testing only to testing centers which are believed to offer

confidential or anonymous reliable testing, pre-test and post-test counseling, and confirmation of positive screening (ELISA) test results with a Western Blot or similar confirmatory test.

11. Medical Care. Individual members of the University community should not be asked whether or not they have a positive HIV antibody test or AIDS unless that information is necessary for the delivery of optimal medical care.

Individuals with HIV infection are encouraged to seek proper medical care, counseling and education. For students, this medical care, together with counseling, education and other support services, is available through the Student Health Service. (Students are referred to the current edition of the booklet "Health Services" for a complete description of the benefits available through the Student Health Service.) Faculty and staff should look primarily to their personal physicians for appropriate medical care and counseling; however, the Student Health Service is available to faculty and staff to provide general information about HIV infection and AIDS and, if requested, to provide medical and counseling referrals.

Individuals with HIV infection are expected to comply with the University's immunization requirements. Vaccination with Tetanus-Diphtheria Toxoid poses no risk. Measles/Mumps/Rubella (MMR) vaccination is recommended by the CDC for nonimmune asymptomatic HIV infected individuals. Measles, mumps or rubella infections have serious consequences, and the vaccine containing these live attenuated viruses has been found to pose no risk. Oral Polio vaccine is not recommended; HIV infected individuals or their family members should receive parenteral enhanced potency vaccine (eIPV).

12. Responsibility of Infected Individuals. Individuals who are infected with HIV or who have a reasonable basis for believing that they are infected with HIV must conduct themselves responsibly for the protection of themselves and other members of the University community.

13. Safety Precautions and Procedures. Each School, College and Department of the University should become familiar with the safety guidelines proposed by the CDC for the handling of human blood and body fluids and with the University's Protocol for Handling Human Blood, Blood Products, Body Fluids, Human Tissues, Infectious Agents and Infectious Materials. These safety guidelines apply to blood

and blood-containing body fluids of all persons, not just persons known to have HIV infection. Body fluids such as tears, vomitus, urine and feces are thought to confer very low or no risk of HIV infection unless they contain apparent blood. However, when in doubt, use gloves when handling or disposing of such materials. Although exposure to blood should be rare outside of the Student Health Service, certain laboratories and the Athletic Department, accidents or injuries resulting in the shedding of blood or other body fluids can happen anywhere. Each School, College and Department should have procedures in place for responding to such accidents and injuries in a manner consistent with the CDC's recommendations. The most basic of these recommendations is that surfaces contaminated by human blood or other body fluids should be cleaned and disinfected with commercial disinfectant solutions or with household bleach freshly diluted 1:100 with water. Individuals engaged in cleaning and disinfecting these surfaces should wear either latex or plastic gloves. The Safety and Health Office and/or the Environmental Safety Office will provide additional guidance on the recommendations through formal annual training sessions and, upon request, through informal consultation.

Students enrolled in laboratory courses requiring exposure to human blood, such as biology courses, should use appropriate barrier techniques and disposable equipment. Lancets and other blood-letting devices must not be re-used or shared.

Human blood and materials contaminated with blood must be disposed of in accordance with the policies and procedures of the Safety and Health Office and the Environmental Safety Office.

14. Support Services. The University should build on the excellent programs of its Student Health Service and Student Counseling Service so that all members of the University community with questions and concerns about HIV infection will have available and accessible to them services through which they can obtain information, counseling, medical care, assistance in locating and using community resources and, as appropriate, referrals to such resources.

WASHINGTON UNIVERSITY RESOURCES

1. Washington University Committee on AIDS. The Washington University Committee on AIDS is a University-wide committee appointed by the Chancellor and composed of faculty, administrators and students. It is charged with recommending policies to the administration, the faculty, and students, as appropriate, on relevant issues that touch on AIDS. It also oversees the University's educational programs on AIDS and, in consultation with the Washington University Medical Center Communicable Diseases Council, a group composed primarily of infectious disease experts and hospital administrators, is available to evaluate, on an anonymous or confidential basis, individual cases of HIV infection within the University community and to recommend appropriate University responses. Any member of the University community with questions or concerns about the University's AIDS educational effort or the interpretation of the University's AIDS policy or about how to respond to an individual case of HIV infection on campus is invited to bring such questions or concerns to the attention of the Committee. J. Russell Little, Jr., M.D., the current Chairperson of the Committee, can be reached by telephone at 454-7782 or by mail at Campus Box 8050.

2. Additional Resources. In addition to the Washington University Committee on AIDS, the following University offices are available to provide information and respond to questions about HIV infection, AIDS and AIDS-related matters:

   The Student Health Service
   Roberta Loeffler, M.D., Director
   Campus Box 1201
   889-6656

   The Student Counseling Service
   Robert H. Easton, Ed.D., Director
   Campus Box 1053
   889-5980

   The Safety and Health Office
   Keith W. Klein, Administrator
   Campus Box 1069
   889-5547

   The Environmental Safety Office
   Paul P. Hipps, Ph.D., Director
   Campus Box 8229
   362-6816

383

AIDS

University Policy
and
Guidelines

West Virginia University

Introductory Note

This policy should be read in conjunction with the AIDS Resource and Information Bulletin, available from the Office of Student Affairs or individual deans and directors. The guide offers advice on issues that are often raised in campus settings. It was adopted from similar material developed at the University of California at Berkeley and The Ohio State University. Actual decisions will be governed by this policy.

Coverage and Application

The following policy guidelines apply to WVU students, student applicants, employees, or employment applicants with AIDS or AIDS Related Complex (ARC), hereinafter AIDS, which substantially limits one or more of his or her major life activities and may pose a significant risk to others or is viewed as having a disability by others.

(Note: Hereinafter, and for ease of expression, employees will mean faculty, faculty equivalents, classified, and non-classified staff at WVU.)

Purpose

The University reaffirms its human resources development commitment that stresses respect for individuals' confidentiality of information and their personal goals and objectives regardless of their personal afflictions or disabling conditions. It also recognizes that such persons may wish to maintain their student or employee status for as long as their medical condition allows. To this end, the University will apply the following guidelines in analyzing and responding to each person's condition and circumstances in determining the extent to which the person can remain associated with the University.

Applicable Laws and Regulations

The University will apply the same handicapped statutes, policies, procedures, and regulations to students, student applicants, employees, and employment applicants with AIDS as are applied to persons with other disabling conditions. Where applicable, the University will adhere to health and safety laws, public health laws, and other appropriate requirements governing the control and prevention of communicable and infectious diseases. The University recognizes its duty to provide an environment which is free from recognized hazards causing, or likely to cause, death or serious physical harm or serious illness.

Medical Consultation

As with other communicable diseases, the University Health Service can provide medical evaluation and consultation. Evaluation outside the University will be arranged upon request of the individual involved.

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Reasonable Accommodation

Where applicable, and under the meaning of reasonable accommodation as specified by law, the University will reasonably accommodate the environmental restrictions or medical limitations of the affected person, provided the individual can perform the essential functions of his or her normal responsibilities with the accommodation. All accommodations will be considered on an individual basis.

In determining the reasonableness of any accommodation, the required University investment will be weighed with the projected benefits obtained by the individual and the University community. The Disability Services unit of the Counseling and Psychological Services Center will serve as a major resource on reasonable accommodation and related matters for affected students and student applicants. The Department of Human Resources will serve as the major resource on reasonable accommodation and related matters for affected employees and employment applicants.

AIDS Information

The University will be guided by contemporary scientific and medical information and recommended precautions in making decisions related to applicant acceptance, reasonable accommodation, student and employee retention, and other related matters.

Medical Determinations and Administrative Decisions

The deans and directors will render the final decision on AIDS-related matters after consultation with the Associate Vice President for Student Affairs in student matters; the Provost and Vice President for Academic Affairs or Vice President for Health Sciences in faculty matters; and the Vice President for Administration and Finance on classified and non-classified staff matters. Decisions are subject to the usual appeal procedures.

Confidentiality of Information

Recognizing the need for confidentiality, the University will be guided by relevant state and federal privacy laws, University policies and procedures, and disease reporting requirements required by the County Health Department and the State Department of Health.

Information, Education, and Training

The University recognizes its commitment to education and pledges to support a comprehensive plan for AIDS education.

Questions

Students, faculty, administrators, or staff who have questions about the implementation of the University's policy and guidelines on AIDS or who seek other information on this issue should contact **Peggy Kovac, AIDS Education Specialist, University Health Service, 293-2311.**

Acknowledgement

The University is indebted to the many individuals who contributed to the development of the WVU Policy on AIDS and the Resource and Information Bulletin.

West Virginia University is an equal opportunity institution and does not discriminate on the basis of race, color, religion, sex, age, national origin, or handicap.

[illegible]

Excerpt From

____ University Medical Center

HUMAN IMMUNODEFICIENCY VIRUS (HIV) WORKPLACE GUIDELINES

I. INTRODUCTION

A. Human Immunodeficiency Virus (HIV) is the agent which causes the Acquired Immune Deficiency Syndrome (AIDS) and Aids-related Complex (ARC). There are also some patients who carry the virus in their blood but have no symptoms (Asymptomatic Carrier). The virus is present in many secretions of the infected patient. Transmission of the virus has occurred through sexual contact, transferring blood or blood products and may be passed from mother to infant. The risk of transmission of HIV from a patient to a healthcare worker (HCW) is extremely low. The only documented cases have been from needlesticks with contaminated needles or splash of infected secretions on open cuts or mucous membranes. Casual contact with infected patients or co-workers poses no risk to the HCW. To minimize the risk even further, University Medical Center employees the use of a kind of isolation, called Body Substance Isolation (BSI), for every patient admitted to the hospital.

B. The Goal of UMC is to provide a safe working environment for all employees. The purpose of these workplace guidelines is to outline the policies and procedures of University Medical Center (UMC) in dealing with issues related to Human Immunodeficiency Virus (HIV) in the hospital setting. These guidelines are based on recommendations from the Texas Department of Health and include sections on education of employees, care of patients infected with HIV, personnel policies dealing with HIV in Healthcare workers (HCW's), Body Substance Isolation procedures and the protocol to be followed when a HCW is exposed to HIV on the job. These guidelines are intended to provide the general information that all employees of University Medical Center should know about HIV. Specific questions may still arise and should be directed to the Infection Control Department at extension 3456.

II. POLICIES CONCERNING EMPLOYEES INFECTED WITH HIV

A. Assignment or Reassignment of Job Duties

There are no current recommendations for work restrictions of employees who are known to be HIV positive. Usual precautions for preventing exposure in patients by blood and body fluids of employees will be maintained.

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This includes the use of gloves when cuts are present in hands, in order to protect both employees and patients.

Any employee who prefers to transfer from a position where invasive procedures are routinely performed will be considered on an individual basis, based on hospital transfer policy and all circumstances and facts then known.

Employees may perform patient care duties except during times that infectious conditions are present or when the health of the employee does not permit him\her to work. Infectious conditions which are transmissible to others may require a work restriction (contact Employee Health). Employees will be evaluated on an individual basis. After the employee has been cleared by his/her private physician to return to work, the employee will be evaluated by the employee Health Clinic for final clearance. The Employee Health Clinic in consultation with the Department Manager and Personnel Department when necessary will determine if the employee may remain in his/her position or if a transfer is necessary.

It is the employees' responsibility to produce accurate and timely medical documentation regarding the extent to which his/her medical condition is affecting job performance.

Infected employees will be counseled concerning he risk associated with caring for patients with any transmissible infection. Infection control policies and procedures will be emphasized.

B. Evaluation Leave Policies to Assure Leave Time is Comparable to Other Medical Conditions.

Employees who test positive for the HIV antibody will be subject to the same leave of absence policies and guidelines as all other employees who have medical conditions.

C. Making Determination of Possible Qualification for Disability Entitlements.

If the infected employee is insured by our optional Long Term Disability Coverage, and for the first 24 months of disability is unable to perform her/his regular occupation, then partial income replacement will commence. Payments will continue as long as medical evidence is provided substantiating total disability up to age 65. After 24 months the insured must be not able to perform any occupation for which he/she is suited by education, training, or experience.

D. Insurance Coverage for the HIV Infected Individual.

Individuals infected with the HIV virus are provided the same level of health care coverage as other employees.

III. TRAINING OF MANAGEMENT AND SUPERVISORY PERSONNEL

Education Topics:

A. Current information about HIV transmission and prevention
B. Confidentiality and related laws
C. Personnel management (relevant hospital policies)
D. Staff problem -- solving skills
E. Plan for scheduled periodic training
F. Incorporation of BSI into performance evaluations

IV. EMPLOYEE ASSISTANCE PROGRAMS

A. Referrals for Confidential Testing/Counseling and Psychosocial Services

HIV testing will be possible through the Employee Health Clinic for employees on a voluntary basis. 's Employee Medical Care Plan does not cover the costs of HIV testing for non-exposure screening purposes. The employee must assume the costs associated with the testing.

If the employee requests testing, written informed consent will be obtained prior to testing. Confidentiality will be maintained as outlined by State law. The employee will be counseled in the Employee Health Clinic according to Centers for Disease Control Guidelines. Employees with positive results will be referred to other community resources for further counseling. A list of these resources may be obtained from the Employee Health Clinic.

B. Provide Training for Managerial Staff

Education and training will be provided to the Management Staff by infection Control, with the implementation of Workplace Guidelines and with ongoing education as necessary.

C. Provide Opportunity for Counseling for Employees who Remain Fearful of Co-Workers or Clients who may be HIV Positive or High Risk

Employees who have concerns about caring for patients or working with co-workers with HIV infection may seek counseling through their department Manager, Employee Health, Infection Control, or from any available community resource. There may be situations where fellow employees express reluctance or threaten refusal to work with the infected employee. These situations can be dealt with effectively through information, counseling and existing policies, through the Personnel Department.

V. EDUCATION OF EMPLOYEES

Education Topics:

A. Basic and accurate information on HIV transmission and prevention
B. Reduce fear and misinformation
C. Recognize and avoid behaviors that might cause infection
D. Encourage nondiscrimination
E. Maintain productivity and lawful behavior in the workplace
F. Provide continuing education about HIV

VI. OTHER

A. Accommodations will be Made to Keep Employees with HIV Infection Employed and Productive as Long as Possible

Every effort will be made to maintain employment for the employee based on their ability to perform the job and that they do not pose a threat of infection to others.

B. Confidentiality of Employee Records/Status Will be Protected

Confidentiality of the employee's health status will be maintained to the full extent of the law.

C. Nondiscrimination of the HIV Infected Employee

University Medical Center complies with Section 504 of the Rehabilitation Act, which prohibits discrimination against disabled individuals, including those testing positive for the HIV antibody.

CORNELL UNIVERSITY MEDICAL SCHOOL

CUMC and GSMS STUDENTS

MANAGEMENT OF NEEDLESTICK AND BODILY FLUID EXPOSURE*

All puncture wounds and other exposures to blood and body fluids should be reported immediately to the Student Health Service (SHS).

This policy applies to all students at the Cornell University Medical College and The Graduate School of Medical Sciences.

An exposure is defined as contact by: 1) needlestick or sharp puncture wound; 2) open cut, burn or abrasion contaminated by body fluids or tissues (blood, blood products, bloody fluids, semen, CSF, amniotic fluid, menstrual discharge, pleural, peritoneal, pericardial fluid, inflammatory exudates, any other body fluid or tissue contaminated with blood); or 3) splash to mucous membranes (e.g., eye or mouth) with such materials.

Since maximum benefit of therapy may occur with prompt treatment, the following policy has been established:

1. For all exposures, students should immediately notify the Student Health Service (SHS, 212-746-1450)** at CUMC. If at NYH-CMC, Monday through Friday from 9:00 a.m. to 5:00 p.m., the student should report to the SHS (Helmsley Tower, Rm. 360). During nights, weekends or holidays, after notifying the SHS by phone (746-1450)**, the student should report to the Emergency Room of The New York Hospital for immediate treatment to the injured site.

2. Policies for immediate evaluation and treatment are in place at CUMC affiliated institutions. If an injury should occur while at an affiliated institution, students should contact the following service/physician:

   1) Catholic Medical Center

   Directors of Emergency Rooms:

   St. Mary's: Mark Leber, M.D., Tel: 718-774-3600, Ext. 2547
   Mary Immaculate Hospital: Fritz Hyppolite, M.D., Tel: 718-291-3300
   St. John's: Robert Labinson, M.D., Tel: 718-457-1300
   St. Joseph's: Constance McGlashen, M.D., Tel: 718-591-1000

   2) La Guardia Hospital

   Employee Health Service: Khosrow Alyeshmerni, M.D., Tel: 718-830-4027
   If not available: Morris Jampol, M.D., Tel: 718-830-4008

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3) Lenox Hill Hospital

Personnel Health Service, Achelis Room 220: Alberto Tapia, M.D., Tel: 212-439-2036.

4) Memorial Hospital

Student Health Service, CUMC

5) North Shore University Hospital

Infectious Diseases Division: Bruce F. Farber, M.D., Tel: 516-562-4280. If not available, the Infectious Diseases physician on-call at the same number or by page at extension 0100.

3. Follow-up treatment for all exposures will be given by the SHS at CUMC.

The following measures have been initiated to ensure confidentiality of medical records in the Student Health Service:

1. Confidentiality of every student medical record will be adhered to by the Student Health Service staff.

2. Students who request laboratory results by phone must give the Health Service their name, social security number and identify the specific laboratory test.

3. Routine laboratory tests are usually performed by The New York Hospital service laboratories and are therefore entered into the computer system by name. Currently the only exception is HIV antibody tests, which are coded. The coded numbers are known only to the patients and their personal physician. To maintain strict confidentiality of other laboratory tests, students may request the Health Service to have these tests performed by commercial laboratories. Results will therefore be recorded only in the student's health record.

4. Requests for student medical information by any individual or organization outside of the Health Service will be directed to the Student Health physician. Unless so required by law, no medical information will be released without the approval of the Student Health physician, the Office of Legal Affairs and the student.

5. If a needlestick injury occurs, students are encouraged to follow the specific guidelines outlined in the policy. If the student wishes to preserve confidentiality, open discussions with other students, housestaff and staff physicians are discouraged.

* Approved by the Executive Faculty Council November 1, 1990, and the General Faculty Council November 12, 1990.

** Please note that the Student Health Service On-Call Service telephone number listed in the current (1990-91) NYH-CMC telephone directory is incorrect.

CUMC FACULTY AND STAFF

MANAGEMENT OF NEEDLESTICK AND BODILY FLUID EXPOSURE*

All puncture wounds and other exposures to blood and body fluids should be reported **IMMEDIATELY** to Occupational Health Services (746-4370) so that the exposure can be documented and appropriate preventive measures initiated.

An exposure is defined as contact by: 1) needlestick or sharp puncture wound; 2) open cut, burn or abrasion contaminated by bodily materials such as blood, pus, saliva, urine or stool; or 3) splash to mucous membranes (e.g., eye or mouth) with such materials.

Each case will be assessed and counseling given concerning the epidemiology of Hepatitis B and HIV and will include, if appropriate, indications for prophylactic AZT and for active and/or passive Hepatitis immunization.

Since maximum benefit of therapy may occur with prompt treatment, the following policy has been established:

1. For exposures Monday through Friday (8:30 a.m. to 4:30 p.m.), the CUMC faculty or staff member will report to Occupational Health Services. During nights, weekends or holidays he/she will notify the on-call clinician, Center for Special Studies, Ext. 6-4180, and report to the Emergency Room for immediate, and if appropriate, early treatment.

2. Initial treatment for Hepatitis exposure will depend on the employee's antibody status and the source patient's antigen status.

3. Follow-up HIV serologic testing is encouraged. If the employee consents to HIV testing, a baseline HIV antibody will be obtained and repeated at 6 weeks, 3 months, 6 months and 12 months post-exposure.

4. Follow-up treatment for all exposures will be given by Occupational Health Service.

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* Approved by the Executive Faculty Council November 1, 1990, and the General Faculty Council November 12, 1990.

Policy for

Management of Students, Faculty and Staff Following Needlestick or Body Fluid Exposure

Cornell University Medical College

Human immunodeficiency virus (HIV), the cause of AIDS, can be transmitted to health care personnel exposed to blood and other materials containing the virus. The risk of infection following parenteral needlestick exposure to blood infected with HIV is approximately 0.4% (1 in 250) overall; the risk from mucous membrane exposure and inoculation of non-intact skin is not zero, but is too low to be measured. No risk from contamination of normal skin or from other types of exposure has been documented. Other factors in addition to the route of exposure may influence transmission risk such as titer of virus in the source material, volume of infected material involved and viability of the virus.

A policy and guidelines for the management of health care workers (HCW), e.g. students, faculty and staff following needlestick or body fluid exposure was therefore established for Cornell University Medical College (CUMC). This policy was modeled after the procedures that have been in place at The San Francisco General Hospital (CMOSH Policy and Procedures).

POLICY

All puncture wounds and other exposures to blood and body fluids should be reported immediately by CUMC employee to occupational health (OH) or by medical students to student health service (SHS), so that the exposure can be documented and appropriate preventive measures initiated.

This policy applies to all Cornell University Medical College health care workers (HCW). Such individuals include students, faculty and employees.

An exposure is defined as contact by: 1) needlestick or sharp puncture wound; 2) open cut, burn or abrasion contaminated by body fluids or tissues (blood, blood products, bloody fluids, semen, CSF, amniotic fluid, menstrual discharge, pleural, peritoneal, pericardial fluid, inflammatory exudates, any other body fluid or tissue contaminated with blood) or 3) splash to mucous membranes (e.g. eye or mouth) with such materials.

Since maximum benefit of therapy may occur with prompt treatment, the following policy has been established:

1. For exposures Monday through Friday (9:00 AM to 5:00 PM), the HCW will report to OH or SHS. During nights, weekends or holidays, the HCW will notify the on-call clinician (a. employees - Center for Special Studies (CSS), 212-746-4180, b. students - Student Health Service (SHS), 212-746-1450) and report to the emergency room (ER) attending for immediate, and if appropriate, early treatment.

2. Initial treatment for Hepatitis exposure will depend on the HCW antibody status and the source patients' antigen status.

3. Follow-up treatment for all exposures will be given by OH or SHS.

4. If the source patient is known HIV positive or is in a high-risk group, the HCW will be counseled, HIV testing recommended and Zidovudine (ZDV) prophylaxis offered as appropriate.

5. When the HCW reports an exposure to OH/SHS, an Occupational HIV Exposure Questionnaire will be completed to determine how the exposure occurred and whether protective equipment was in use (Appendix). All needlestick questionnaires will be reviewed with the HCW, the HCW's input regarding prevention sought, and the HCW counseled about needlestick prevention. Needlestick questionnaire results will be analyzed in an aggregate fashion (without specific identifiers) and presented regularly to the CUMC AIDS Committee.

6. If needlestick or exposure occurs while a student or CUMC employee is at an affiliated institution, immediate evaluation and treatment will be available at that institution. Follow-up treatment for all exposures will be given in OH or SHS of Cornell Medical Center. Staff of affiliated institutions with CUMC appointments will be the responsibility of that institution.

7. Diagnostics

   A. A Hepatitis B surface antigen (HBsAg) will be ordered on the source patient if it is not known.

   B. A Hepatitis B surface antibody (HBsAb) will be ordered on the HCW if it is not known.

   C. If the HCW was exposed to an HIV infected patient or patient at high-risk for HIV infection, the HCW will be counseled on the issues of consenting to HIV antibody testing (Appendix).The HCW will also be counseled on general risk-reducing measures such as safe-sex. If the HCW consents to HIV testing, a baseline HIV antibody will be obtained and repeated at 6 weeks, 3 months, 6 months and 12 months post-exposure.

   D. If the source patient is at high risk for HIV and/or the HCW requests HIV testing on the source, the attending of record will be notified who will then arrange for counseling and testing if consent is obtained.

8. Counseling

   A. Immediate counseling will be provided by OH/SHS. Among the issues to be discussed are the nature/severity of exposure, and if indicated, a discussion of ZDV prophylaxis. Stressors may be identified at this time which the clinician will utilize to advocate counseling. In addition, the issues of confidentiality, HIV testing, Hepatitis B prophylaxis, safe sex and deferral from blood donation will be discussed.

9. Hepatitis and tetanus prophylaxis

   A. Information and counseling will be given regarding the benefits, side effects and potential risks regarding the immune globulins and the Hepatitis B vaccine (Recombivax).

   B. Immune Serum Globulin (ISG) 0.06ml/kg IM will be offered as prophylaxis against Hepatitis Non-A Non-B.

   C. Hepatitis B Immune Globulin (HBIG) 0.06ml/kg IM will be offered to HCWs exposed to source patient who is HBsAg positive or at high risk for Hepatitis B (HBsAb positive HCWs who are considered immune do not need either HBIG or Hepatitis B vaccine).

   D. Tetanus immunization 0.5cc IM will be offered if the HCW has not received booster or series within the past 10 years.

   E. Immune Serum Globulin or Hepatitis B Immune Globulin shall be offered in 1 month if the HCW declines the Hepatitis B vaccine and when source patient is HBsAg positive.

10. Zidovudine chemoprophylaxis

Zidovudine is a drug which delays but does not prevent disease progression in patients with AIDS. Zidovudine inhibits reverse transcriptase, an essential virus enzyme required for replication and development of the latent state. The efficacy of zidovudine in preventing latent infection with HIV following occupational exposure is not known and will be difficult to ascertain because of the low risk of transmission. Although the risk of HIV infection after exposure is not high (1-3), the outcome, should infection occur, is likely to be fatal. Although the risks and benefits from post-exposure treatment with zidovudine are unknown, health care workers may choose to take zidovudine after occupational exposure

11. Confidentiality

All medical and other hospital records pertaining to the HCW's exposure will be kept confidential in accordance with applicable New York State law. In this regard, the HCW should know that recently enacted legislation has provided special, more stringent confidentiality for all "HIV-related information" (which includes even the mere fact that someone received HIV testing). The provisions of this new confidentiality law will be strictly adhered to so that any "HIV-related information" which may pertain to the HCW will be protected from disclosure in accordance with this law.

The following measures have been initiated to ensure confidentiality of medical records in the student health service:

1. Confidentiality of every student medical record will be adhered to by the student health service staff.

2. Students who request laboratory results by phone must give the health service their name, social security number and identify the specific laboratory test.

3. Routine laboratory tests are usually performed by The New York Hospital service laboratories and are therefore entered into the computer system by name and history number. Currently the only exception is HIV antibody tests, which are coded. The coded numbers are known only to the patients and their personal physician. To maintain strict confidentiality of other laboratory tests, students may request the health service to have these tests performed by commercial laboratories. Results will therefore be recorded only in the student's health record.

4. Requests for student medical information by any individual or organization outside of the health service will be directed to the student health physician. Unless so required by law, no medical information will be released without the approval of the student health physician, the Office of Legal Affairs and the student.

5. If a needlestick injury occurs, students are encouraged to follow the specific guidelines outlined in the policy. If the student wishes to preserve confidentiality, open discussions with other students, housestaff and staff physicians are discouraged.

GUIDELINES FOR THE
MANAGEMENT OF ACCIDENTAL EXPOSURE
BY CUMC PHYSICIANS

I. DEFINITION OF EXPOSURE

A. MASSIVE Exposure

1.) Transfusion of blood
2.) Large volume injections of blood (>1 ml)
3.) Parenteral exposure to laboratory specimens containing high titer of virus

B. DEFINITE Parenteral Exposure

1.) Intramuscular (IM/"deep") injury with a blood/bloody body fluid-contaminated needle
2.) Injection of blood/bloody body fluid
3.) Laceration or similar wound which causes bleeding in HCW produced by a visibly blood/bloody body fluid-contaminated instrument
4.) Laceration or similar fresh wound inoculated with blood/bloody body fluid
5.) Any parenteral inoculation of HIV/HBV virus samples (usually research settings) not included in A above

C. POSSIBLE Parenteral Exposure

1.) Subcutaneous (SQ/"superficial") injury with blood/bloody body fluid-contaminated needle
2.) A wound produced by blood/bloody body fluid-contaminated instrument which does not cause visible bleeding
3.) Prior wound or skin lesion contaminated with blood/bloody body fluid
4.) Mucous membrane inoculation with blood/bloody body fluid

D. DOUBTFUL Parenteral Exposure

1.) Subcutaneous (SQ/"superficial") injury with non-bloody body fluid-contaminated needle
2.) A wound produced by non-bloody body fluid-contaminated instrument which does not cause visible bleeding
3.) Prior wound or skin lesion contaminated with non-bloody body fluid
4.) Mucous membrane inoculation with non-bloody body fluid

E. NON-parenteral Exposure

1.) Intact skin visibly contaminated with blood/body fluid

II. IMMEDIATE Treatment

A. Wound Care

1.) Clean wound with soap and water
2.) Flush mucous membranes with water/saline
3.) Other wound care dictated by injury or accident

4.) Serious injuries requiring suturing or other physician intervention should be promptly evaluated by the ER attending.

B. Contact occupational health or the student health service (Mon.-Fri., 9am-5pm). During the night, weekends and holidays, contact the Center for Special Studies (CSS) or Student Health Service (SHS) and report immediately to the ER attending.

III. EARLY TREATMENT

A. Tetanus prophylaxis if indicated (< 24 hours if serious "dirty" injury)
   1.) Document refusal

B. HBV HBIg Prophylaxis < 24 hours after parenteral exposure (after drawing HCW red top for HBsAb) if HCW not completely vaccinated and:
   1.) source patient known HBsAg positive
   2.) source patient has clinical hepatitis and HBV has not been excluded
   3.) document refusal

C. Immune serum Globulin Prophylaxis < 24 hours after parenteral exposure (after drawing HCW red top for HBsAb):
   1.) All other massive, definite or possible parenteral exposures
   2.) Document refusal

D. To arrange HBIg or ISG treatment when at night or during the weekend/holiday:
   1.) CSS on-call physician to notify the ER attending
   2.) Red top tube drawn, labeled with HCW name, and stored in ER at 4°C.
   3.) ER attending to provide treatment and document visit
   4.) HCW referred to OH/SHS the next working day
   5.) HCW given factsheet
   6.) CSS on-call physician to call OH and alert them that HCW visited ER, to expect follow-up visit, and to pick up red top tube in ER
   7.) Detailed exposure documentation deferred to OH/SHS

E. Recombivax < five days after parenteral exposure (at OH/SHS follow-up) if:
   1.) HCW HBsAb negative
   2.) Document refusal

F. ZIDOVUDINE recommended ASAP (within hours) for:
   1.) Massive exposure: (transfusion of blood from source known to be HIV infected or source at high risk for HIV infection pending test)
   2.) High titer exposure: (parenteral exposure to concentrated virus, usually in research laboratory setting)

3.) Defer treatment if HCW pregnant
4.) Rx: 200mg P.O. every 4 hours while awake (5x day) pending subsequent evaluation by OH/SHS
5.) Zidovudine is not routinely encouraged for other exposures but should be discussed. It may be prescribed for definite and possible parenteral exposures to HIV, and, at the discretion of the supervising clinician, for some doubtful parenteral exposures.
6.) In all cases where zidovudine is administered, every effort should be made to initiate treatment within hours of exposure. ZDV may be obtained by prescription from the K7 satellite pharmacy (6-0719). During nights, weekends and holidays, a written order for up to 15 doses (200mg each dose) may be obtained by the emergency room physician. However, verbal authorization for the prescription by the on-call CSS/SHS physician is required. CSS/SHS on-call physicians must arrange follow-up visit for treated HCW within 24-72 hours of starting zidovudine

7.) Health care workers may request referral to non-CMC physicians for additional evaluation and non-protocol treatment.

IV. Follow-up Evaluation and Treatment

A. Refer HCW to OH/SHS (9am-5pm, Mon.-Fri., except holidays).

B. Source patient HIV testing will be coordinated by OH/SHS who will contact the patient's attending of record.

C. Assessing Risk of Infection in Source Patient:
  1.) Source patient known and available for HBV evaluation; HCW HBsAb negative or pending:
    a. Diagnosed HBV (HBsAg + or HBeAg +); Test unnecessary
    b. High risk HBV (drug user/homosexual/bisexual man/dialysis patient/clinical hepatitis); Test source patient
    c. HBV known seronegative (tested in last month); Test source patient (optional)
    d. No apparent risk for HBV; Test source patient (optional)
    e. RULE OF THUMB: TEST SOURCE PATIENT UNLESS SOURCE KNOWN TO BE HBsAg POSITIVE

  2.) Source patient known and available for HIV evaluation:
    a. Diagnosed HIV infection/AIDS/ARC; Test unnecessary
    b. High risk HIV (multiple sexual partners/intravenous drug user/hemophiliac/homosexual/bisexual, etc.); Test source patient (with consent)
    c. HIV known seronegative (tested in last month) Test source patient (with consent) - optional
    d. No apparent risk for HIV; Test source patient (with consent) - optional
    e. RULE OF THUMB: TEST SOURCE PATIENT (WITH CONSENT) UNLESS SOURCE KNOWN TO BE HIV-INFECTED

  3.) Source unknown/unavailable for evaluation
    a. Individualize management depending on exposure severity

D. Source Patient HIV Counseling & Testing
   1.) Contact source patient's attending physician
   2.) Patient counseled; informed consent required prior totesting
   3.) Source patient HIV tests should be performed ASAP when the exposed HCW has elected to begin empiric zidovudine prophylaxis
   4.) Test results communicated to patient (with appropriate counseling and referral if indicated), and exposed HCW
   5.) Source patient test results recorded in HCW's record

E. Health Care Worker HIV Counseling & Testing
   1.) HIV testing (baseline, 6 weeks, 3 months, 6 months, 12 months) recommended if:
      a. Source patient known HIV +/AIDS/ARC
      b. Source patient tests HIV +
      c. Source patient high risk for HIV
      d. Source patient unknown
      e. Requested by concerned HCW
   2.) HIV testing optional if:
      a. Source patient low risk HIV
      b. Source patient HIV test -
   3.) Serum specimens frozen for p24 assay

ZIDOVUDINE PROPHYLAXIS

Zidovudine is a drug which delays but does not prevent disease progression in patients with AIDS. Zidovudine inhibits reverse transcriptase, an essential virus enzyme required for replication and development of the latent state. The efficacy of zidovudine in preventing latent infection with HIV following occupational exposure is not known and will be difficult to ascertain because of the low risk of transmission.

Data derived from animal studies suggest that zidovudine may be at least partially effective in preventing viremia, disease, and perhaps latent infection in animals inoculated with non-human retroviruses (4,5). Benefit is most evident when the drug is administered before exposure (pre-exposure prophylaxis). Drug efficacy decreases when treatment is delayed. Efficacy of post-exposure prophylaxis in animals inoculated with lower titers of retrovirus (more comparable to the amount of virus involved in a typical needlestick injury) has not yet been evaluated.

Evaluation of toxicity from zidovudine in healthy health care workers treated for short intervals is incomplete. Persons with asymptomatic HIV infection rarely experience serious toxicity in the first few weeks of treatment (6,7). Headaches, nausea, diarrhea, fever, insomnia, paresthesias, neutropenia, macrocytic anemia, thrombocytopenia, hepatitis, myositis, and skin changes may be side effects of treatment. Irreversible toxicity is unusual even in patients treated for prolonged intervals. Delayed toxicity, teratogenicity, and mutagenicity have not been evaluated.

The risk of HIV infection after exposure is not high (1-3), the outcome, should infection occur, is likely to be fatal. Although the risks and benefits from post-exposure treatment with zidovudine are unknown (8), health care workers may choose to take zidovudine after occupational exposure (9). The risk/benefit ratio of post-exposure prophylaxis is likely to be most apparent for exposures involving a higher risk of infection ("massive", "definite parenteral", and "possible parenteral" exposures. Definition of HIV - Appendix).

Toxicity is likely to be related to zidovudine dose and the duration of treatment. The optimal dosing regimen for zidovudine is unknown; however, current recommendations for treating patients with established infection are designed to provide drug levels in excess of the concentration required to inhibit HIV replication in tissue cultures (> luM/ml). The duration of treatment required to protect against infection after exposure is unknown, and cannot be predicted from data currently available. Experience with non-retroviral viruses suggests that prophylactic treatment for more than a few days is not usually required, but the relevance of these viruses to HIV is unclear.

A. Treatment Procedures

1.) Informed Consent:

Following a discussion of the study protocol with the physician, HCWs choosing to receive zidovudine read and sign the consent form (Appendix). Individuals of child-bearing potential must also sign the statement of intent to avoid pregnancy (Appendix). To facilitate implementation of therapy as soon as possible after exposure, up to 15 doses of zidovudine will be provided and the HCW will be seen by OH/SHS within 24-72 hours.

2.) Source Patient Evaluation:

When the source of the exposure is known, the source patient may be asked by the attending of record to consent to HIV testing. The procedure for obtaining consent will comply with existing CMC policies for source patient counseling and testing. The results of this test will be disclosed to the exposed health care worker, the treating clinicians and recorded in the source patient's medical record.

3.) Follow-up:

Each treated health care worker should be evaluated by OH/SHS at 2 weeks, 6 weeks, 3 months, 6 months, and 1 year. Routine and HIV studies will be repeated at each visit. Potential side effects will be evaluated and physical exam performed as indicated by symptoms. Zidovudine treatment will be reduced or discontinued if grade 3 or 4 toxicity occurs respectively (Appendix). Life-threatening complications (or deaths) occurring in patients receiving zidovudine must be immediately reported to the Food and Drug Administration. Medical records will be updated at each visit (Appendix).

I. Eligibility Criteria:

1. Health care worker with a discreet occupational exposure.

A. Eligible Exposures (Appendix)

"massive parenteral exposure": zidovudine definitely encouraged

"definite parenteral" exposure: zidovudine should be offered

"possible parenteral" exposure: zidovudine not routinely recommended but may be indicated for select cases

"doubtful parenteral" exposures: zidovudine is never recommended but can be prescribed in select cases; HCW should be advised of the extremely small risk of infection associated with this type of exposure

"nonparenteral exposures": zidovudine should not be prescribed

B. HIV Infected Material:

May be defined by bodily fluids from infected patients that have not been inactivated or from research laboratories.

1.) body fluids/tissues

*blood, blood products, bloody fluids
*semen, CSF, amniotic fluid
*menstrual discharge
*pleural, peritoneal, pericardial fluid
*inflammatory exudates
*any other body fluid or tissue contaminated with blood

2.) HIV infection documented in source patient (one or more of the following criteria):

*clinically diagnosed AIDS/ARC or compatible symptoms/signs in patient at high risk
*repeatedly reactive ELISA in source patient serum confirmed by Western Blot or IFA
*p24 antigenemia in source patient serum
*positive HIV culture from any site in source patient
*positive polymerase chain reaction in source patient

Zidovudine treatment may be instituted pending the results of source patient testing at the discretion of the supervising physician.

Exclusion Criteria:

1. Health care workers sustaining "non-parenteral" exposures
2. Men or women of child-bearing capacity who decline to perform acceptable contraception or abstinence during the period of chemoprophylaxis and for four weeks thereafter
3. Women who are pregnant or become pregnant and who elect to continue pregnancy
4. Women who elect to continue breastfeeding during the period of treatment
5. Prior diagnosis of HIV infection
6. Dose reduction considered in HCW with:
   a. Underlying renal insufficiency (creatinine > 3 x nl)
   b. Underlying hepatic insufficiency (SGOT, > 3 x N)
   c. Endogenous or drug-induced immunosuppression
   d. Bone marrow dysfunction (Hgb < 10g/dl); granulocytes 1500/mm^3, or platelets < 100,000 /mm^3)
   e. Treatment with myelosuppressive/nephrotoxic/hepatotoxic drugs within 2 weeks prior to or concurrent with starting therapy

II. Initial Laboratory Evaluation (Health Care Worker)

1. Routine laboratory studies:

   *complete blood count with differential & platelets
   *serum creatinine, urinalysis
   *SGOT, CPK
   *urine pregnancy test (women only)

2. HIV and hepatitis B studies

   HIV antibody (ELISA); confirmatory test (WB) Hepatitis B virus (HBsAg, HBsAb, HBcAb)

   Optional:

   *HIV p24 antigen
   *CD4 lymphocyte subset analysis
   *peripheral blood lymphocytes (to be frozen for gene amplification or other virus studies if indicated in the future)

3. Source patient evaluation:

   *HIV antibody
   *Hepatitis B virus

III. Medication Instructions

Health care workers should be given a two week supply of zidovudine and instructed to take two tablets (200mg) every four hours five times a day. A convenient regimen may be two tablets at 7am, 11am, 3pm, 7pm, and 11pm).

Written instructions for taking zidovudine and a review of potential adverse effects warranting medical evaluation will be provided to each HCW (Attachment). A clinician will be available to answer questions and arrange a consultation if indicated.

Appendices

- HIV Counseling
- Informed Consent to HIV Antibody Test
- Occupational HIV Exposure - Initial Visit
- Baseline Laboratory Tests
- Occupational HIV Exposure - Follow-up visits
- Definition of HIV Exposure
- Informed Consent for Zidovudine Prophylaxis
- Voluntary Statement of Intent to Avoid Pregnancy
- Zidovudine Symptom Adverse Effect Scale

HIV Counseling

Pre-test counseling

Review: Risk Behaviors
Transmission
Incubation/Latency
Counseling and Testing Program

Explain test and meaning of positive/negative result

Describe risk reduction: Safer sex/Condoms
Needles (No share, Bleach)

Explain confidentiality procedure and risks of disclosure

Obtain written informed consent, complete demographic form

Make appointment for result disclosure

Post-test counseling

Assess mental status
Inform patient (in person)
Review transmission, risk behaviors, and meaning of test

Informed Consent to HIV* Antibody Test

Before an HIV antibody test can be given in New York State, written consent is needed. If you have any questions, please ask your doctor or counselor.

1. What is the HIV Antibody Test?

The HIV antibody test is a blood test. The test shows if you have antibodies to the virus that causes AIDS. A sample of your blood will be taken from your arm with a needle. If the first test shows that you have antibodies, a different test will then be done on the same blood sample to make sure the first test was right.

A positive test result means that you have been exposed to the virus and are infected. It does not mean that you have AIDS or that you will become sick with AIDS in the future.

A negative test means that you are probably not infected with the virus. It takes the body time to produce HIV antibodies. If you have been exposed to HIV recently, you need to be retested in several months to make sure you are not infected. Your doctor or counselor will explain this to you.

2. What are the benefits of taking the test?

If you test negative:

- You can learn how to protect yourself from getting infected with the virus in the future. Ask your doctor or counselor how.

If you test positive:

- You can learn how to avoid giving the virus to others.
- Knowing that you are infected is important for your health. Your doctor can care for you better.
- If you are a woman or man who is thinking of having a child, you can learn about the risk of passing the virus to your baby.
- If you are a woman who is already pregnant, your doctor can give special advice and care to you and your baby.

3. Voluntary Testing

Taking an HIV antibody test is voluntary. You do not have to take the test.

If you do not wish anyone to know your test results or even that you have been tested, you can go to an anonymous test site. This is a place where you can receive counseling and the HIV test without giving your name or address. You can find the nearest anonymous test site by calling the **AIDS hotline 1-800-541-2437.**

4. Confidentiality of Test Results

If you take the HIV antibody test, your test results are confidential. Under New York State Law, confidential HIV related information can only be given to people you allow to have it by signing a release form, or to those persons listed on the back of this form.

5. Risks Involved with Disclosure and Sources of Help

If you test positive, you should be careful about telling others what your test showed. Some HIV positive people have been discriminated against by employers, landlords and others. If you experience discrimination because of release of HIV related information you may contact the New York State Division of Human Rights at (212) 870-8624 or the New York City Commission of Human Rights at (212) 566-5493. These agencies are responsible for protecting your rights.

6. For More Information

If you have further questions about informed consent for HIV antibody testing, you may contact the New York State Department of Health at (518) 486-1593.

See back of this form for a list of persons who can receive HIV related information.

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*Human Immunodeficiency Virus that causes AIDS.

My questions about the HIV test have been answered. I agree to take the HIV antibody test.

Date ______________________________

______________________________ Signature of person who will be tested

______________________________ Signature of person authorized to consent for person to be tested

I have explained the means by which the HIV antibody test is done, the meaning of the results and the possible consequences of disclosure of the test results to the individual above, and have answered any questions she/he had about the test.

______________________________ Name

______________________________ Title

New York State approved form
February 1989

Who Can Receive HIV* Related Information

Under New York State Public Health Law, HIV related information is confidential and may only be given:

a. To you (or a person authorized by law who consented to the test for you);

b. To anyone whom you have specifically authorized to receive such information by signing a written release;

c. To a health care facility (such as a hospital, blood bank, or clinical laboratory) or a health care provider (such as a physician, nurse, or mental health counselor) providing care to you or your child, and anyone working for such a facility or provider who reasonably needs the information to supervise, monitor or administer a health service;

d. To a person who your doctor believes is at significant risk for HIV infection, if you do not notify that person after being counseled to do so;

e. To a committee or organization responsible for reviewing or monitoring a health facility;

f. To a federal, state, county, or local health officer when state or federal law requires disclosure;

g. To a government agency, when the agency needs the information to supervise, monitor or administer a health or social service;

h. To an authorized foster care or adoption agency;

i. To insurance companies and other third party payors such as Medicaid if necessary for the payment of services to you;

j. To any person to whom a court orders disclosure under limited circumstances set forth by law. Except in an emergency situation, advance notice and an opportunity to oppose the release of such information would be given to you;

k. To the Division of Parole, the Division of Probation, the Commission of Correction, or a medical director of a local correctional facility, as permitted by HIV confidentiality regulations of such organization.

You can ask your doctor if HIV related information about you has been released to anyone listed above.

---

* Human Immunodeficiency Virus

OCCUPATIONAL HIV EXPOSURE - INITIAL VISIT

Health Care Worker Contact Information

Name ____________________ History #____________________

Age __________ Sex ____________________

House officer ________ Medical student ________ RN ________ Lab________

Bldg service ________ Laundry ________ Aide ________ Other ________

Pregnant: Yes ________ No ________ Unknown ________

Hep B Immunization: Complete ________ In progress ________ Not done ________

Tetanus Immunization: Primary ________ Booster ________

Exposure

Incident date ________ Hour ________ Place ________

Puncture wound depth (IM/SQ/superficial) _____ Skin/mucous membrane ________

Type fluid ________ Amount fluid injected ________ Bleeding at site ________

Examination of injured site:

Classification of injury:

Source Patient Information

Name ____________________ History #____________________

HIV antibody status: Positive ________ Negative ________ Not known ________

Clinical status: AIDS ________ ARC ________ Asymptomatic ________

Hepatitis B status: Antigen +________ Antigen -________ Not known ________

Recommendations

ZDV: Yes/No ________ Interval since injury ________ Daily dose ________

Hep B vaccine ________ HBIG ________ dT booster ________

Additional comments:

Attending Physician ____________________ Date ____________________

BASELINE LABORATORY TESTS

Routine:

CBC with differential ____________________

Platelets ____________________

Creatinine ____________________

SGOT ____________________

CPK ____________________

Urinalysis ____________________

Urine pregnancy test ____________________

HIV and hepatitis B status:

HIV antibody (ELISA) - screen ____________________

HIV antibody (WB) - confirmatory ____________________

Hepatitis B - HBsAb, HBsAg ____________________

Optional:

HIV p24 antigen ____________________

PCR ____________________

Plasma culture ____________________

CD4 lymphocyte count ____________________

OCCUPATIONAL HIV EXPOSURE - FOLLOW-UP VISIT

Week #______ post-exposure or Month #___________ post-exposure

Employee ID Number: _____________________

Date of Exposure: ____/____/____   Date of Visit: ____/____/____

Date ZDV Started____/____/____ Date ZDV Discontinued____/____/____

INTERVAL HISTORY: (include assessment of drug/safer sex compliance)

SYMPTOMS:

PHYSICAL EXAMINATION:

LAB VALUES

Week 2 and 6 (ZDV prophylaxis):

CBC with diff. __________________

Platelets _______________________

SGOT ____________________________

CPK _____________________________

Other ___________________________

All visits

HIV antibody ______________

Other: _____________________

ASSESSMENT/PLAN:

_____ follow-up appointment given (________________________________)

Attending Physician ______________________________ Date ___________

DEFINITION OF HIV EXPOSURE

A. MASSIVE Exposure
   1. Transfusion of blood
   2. Large volume injections of blood (>1 ml)
   3. Parenteral exposure to laboratory specimens containing high titer of virus

B. DEFINITE Parenteral Exposure
   1. Intramuscular (IM/"deep") injury with a blood/bloody body fluid-contaminated needle
   2. Injection of blood/bloody body fluid
   3. Laceration or similar wound which causes bleeding in HCW produced by a visibly blood/bloody body fluid-contaminated instrument
   4. Laceration or similar fresh wound inoculated with blood/bloody body fluid
   5. Any parenteral inoculation of HIV/HBV virus samples (usually research settings) not included in IA

C. POSSIBLE Parenteral Exposure
   1. Subcutaneous (SQ/"superficial") injury with blood/bloody body fluid-contaminated needle
   2. A wound produced by blood/bloody body fluid-contaminated instrument which does not cause visible bleeding
   3. Prior wound or skin lesion contaminated with blood/bloody body fluid
   4. Mucous membrane inoculation with blood/bloody body fluid

D. DOUBTFUL Parenteral Exposure
   1. Subcutaneous (SQ/"superficial") injury with non-bloody body fluid-contaminated needle
   2. A wound produced by non-bloody body fluid-contaminated instrument which does not cause visible bleeding
   3. Prior wound or skin lesion contaminated with non-bloody body fluid
   4. Mucous membrane inoculation with non-bloody body fluid

E. NON-parenteral Exposure
   1. Intact skin visibly contaminated with blood/body fluid

Consent to Take an Approved Drug for a Non-approved Indication

ZIDOVUDINE FOR PREVENTION OF HIV INFECTION AFTER OCCUPATIONAL EXPOSURE TO HIV

I have been exposed to human immunodeficiency virus (HIV), the virus which causes AIDS, in my workplace. My clinician has offered me treatment with zidovudine which might reduce my risk of infection. Although zidovudine is indicated for treatment of established HIV infection, it is not approved by the Food and Drug Administration (FDA) for preventing infection after exposure.

IF I DECIDE TO BE TREATED WITH ZIDOVUDINE THE FOLLOWING WILL OCCUR:

1. Approximately 4 tablespoons of my blood will be drawn and tested for routine studies including complete blood count, platelet count, liver function tests, kidney function tests, and CPK (muscle enzyme) as well as for human immunodeficiency virus (HIV) infection (separate consent).
2. A urine sample to evaluate my kidney function will be obtained.
3. A urine sample to determine if I am pregnant will be obtained (women only).
4. I will be given a two week supply of zidovudine and instructions for taking it. Dose will be 2 100mg tablets to be swallowed every 4 hours 5 times a day.
5. I will be required to return to my clinician after two weeks, and at 6 weeks, 3 months, 6 months, and 12 months after my exposure. Blood and urine tests will be repeated at each visit.
6. If I experience adverse reactions or develop abnormal laboratory tests, zidovudine dose may be lowered or discontinued by my clinician.

BENEFITS OF TREATMENT

The risk of infection from my exposure is not known with certainty. However, should HIV infection occur, the outcome may be fatal. Zidovudine may prevent infection after exposure to HIV.

The benefit of zidovudine in preventing infection after exposure is unproven. Experiments in mice, cats, and monkeys suggest that zidovudine might prevent infection when treatment is started soon after exposure. If treatment is delayed for more than 24 hours, zidovudine is much less likely to prevent infection in these animals.

The duration of zidovudine treatment likely to prevent infection is not known, but could be prolonged. For this reason, my clinicians recommend taking the drug for 2 weeks.

RISKS

If I take zidovudine, I might develop symptoms including headache, muscle pain, tiredness, loss of appetite, trouble sleeping, fever, nausea, vomiting, dizziness, and diarrhea. Although unlikely, I might also develop anemia, low white blood count, low platelet count, hepatitis (liver inflammation), nervous system inflammation (meningitis/encephalitis), muscle inflammation, or other serious adverse effects. These adverse effects are expected to disappear after zidovudine treatment is stopped, but could be life-threatening.

Although considered unlikely, delayed effects of zidovudine could include cancer (carcinogenesis) or mutations in my genetic material (mutagenesis).

Drawing blood may be painful and may cause a bruise, or rarely an infection.

TREATMENT OPTIONS

Treatment with zidovudine is voluntary. If I decide to stop taking zidovudine, I should notify my clinician within 24 hours. If I elect to receive or discontinue zidovudine, neither my employment nor other treatment and followup for my exposure will be affected. Declining zidovudine treatment will not affect benefits to which I am otherwise entitled as a result of my exposure.

I HAVE BEEN GIVEN THE OPPORTUNITY TO ASK QUESTIONS RELEVANT TO ZIDOVUDINE TREATMENT. IF I HAVE ANY QUESTIONS IN THE FUTURE, I MAY CONTACT ______________________ AT ______________. I HAVE BEEN GIVEN A COPY OF THIS CONSENT.

MY SIGNATURE INDICATES MY WILLINGNESS TO TAKE ZIDOVUDINE.

participant	date
name (PRINT)	
supervising clinician	date
name (PRINT)	

ZIDOVUDINE CHEMOPROPHYLAXIS IN OCCUPATIONALLY EXPOSED HEALTH CARE WORKERS

Voluntary Statement of Intent to Avoid Pregnancy: Women

To the best of my knowledge, I am not currently pregnant. Furthermore, I agree to avoid pregnancy while I am taking zidovudine during the next two weeks and for four weeks thereafter. Should I have sexual relations during this period, I will practice a form of contraception that is acceptable to my clinician. I will immediately contact my clinician if pregnancy is suspected. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my clinician except that I will not be treated with zidovudine.

participant's signature — date

name (PRINT) — date

Voluntary Statement of Intent to Avoid Pregnancy: Men

Should I have sexual relations during the next two weeks and for four weeks following completion of zidovudine treatment, I will practice a form of contraception that is acceptable to my clinician. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my physician except that I will not be treated with zidovudine.

participant's signature — date

name (PRINT) — date

RETROVIRUS EXPOSURE SURVEILLANCE PROGRAM
ZIDOVUDINE CHEMOPROPHYLAXIS
Symptom Adverse Effect Scale

Symptoms	Grade 0	Grade 1	Grade 2	Grade 3 (reduce dose)	Grade 4 (discontinue treatment)
Headache	None	occasional, no therapy required	frequent, non-narcotic analgesic required	persistent, narcotic required	intolerable, intractable headache despite therapy
Taste Perception	None	transient/selective changes	persistent changes	total loss of taste	
Dizziness	None	intermittent episodes	frequent episodes, therapy required	frequent episodes, poorly responsive	unable to perform daily functions
Somnolence	Alert	drowsiness	unnatural sleepiness	unable to stay awake	coma
Paresthesia/ Weakness	None	mild paresthesia, decreased DTR's	severe paresthesia, absent DTR, mild weakness	intolerable paresthesia, marked weakness	paralysis
Difficulty Falling Asleep	None	subtle, minor changes	nightly changes, medication required	nightly changes, poorly responsive to medication	persistent changes resulting in an inability to function
Sleep Continuity Disturbance	No Change	occasional disturbed sleep	frequent waking, therapy required	increased waking, poorly responsive to therapy	inability to maintain sleep despite therapy
Increased Anxiety	None	transient anxiety	persistent anxiety, medication required	persistent anxiety, poorly responsive to medication	unable to perform daily functions; inadequately responsive to medications
Malaise	None	mild feeling of illness	persistent feeling of illness which interrupts daily activities	intolerable feeling of illness and fatigue with inability to function	
Fever/ Diaphoresis	None	37.8-38.4°C	38.5-40.0°C	>40.0°C	fever with hypotension

RETROVIRUS EXPOSURE SURVEILLANCE PROGRAM
ZIDOVUDINE CHEMOPROPHYLAXIS
Symptom Adverse Effect Scale

Symptoms	**Grade 0**	**Grade 1**	**Grade 2**	**Grade 3** (reduce dose)	**Grade 4** (discontinue treatment)
Lymphadenopathy	None	lymphadenopathy not requiring symptomatic therapy	lymphadenopathy requiring symptomatic therapy	intolerable lymphadenopathy despite symptomatic therapy	
Loss of Appetite	None	transient loss of appetite	persistent loss of appetite	intolerable loss of appetite associated with weight loss ≥ 10 lbs. or 10% body weight	
Dyspepsia	None	transient indigestion, no therapy required	persistent indigestion requiring therapy	intolerable indigestion, no relief from therapy	
Nausea/Vomiting	None	transient nausea and/or vomiting, not requiring symptomatic therapy	persistent nausea and/or vomiting requiring therapy	vomiting requiring IV therapy	intractable vomiting
Diarrhea	None	transient < 2 days, no therapy required	present ≥ 2 days, requiring therapy	intolerable despite therapy	hemorrhagic, dehydration
Myalgia	None	mild myalgia, no therapy needed	moderate myalgia requiring medication	intolerable myalgia despite therapy	
Arthralgia	None	minor arthralgia, no therapy needed	moderate arthralgia, therapy required	intolerable arthralgia despite therapy	
Rash	None	erythema	mild desquamation, vesicles	moderate desquamation, ulceration	exfoliative dermatitis, necrosis requiring surgical intervention
Dyspnea	None	mild symptoms	exertional dyspnea	dyspnea at rest	complete bedrest required

FACTSHEET FOR HCW

All puncture wounds and other exposures to blood and body fluids should be reported immediately to Occupational Health - J-132 (employees and faculty) or Student Health Service - HT-360. During nights, weekends and holidays, notify the Center for Special Studies (746-4180) or Student Health Service (746-1450) and immediately report to the emergency room attending.

Confidentiality

All medical and other hospital records pertaining to your exposure will be kept confidential in accordance with applicable New York State law. In this regard, you should know that recently enacted legislation has provided special, more stringent confidentiality for all "HIV-related information" (which includes even the mere fact that someone received HIV testing). The provisions of this new confidentiality law will be strictly adhered to so that any "HIV-related information" which may pertain to you will be protected from disclosure in accordance with this law.

Counseling

Staff physicians at OH or the SHS are available to you for counseling. It is strongly recommended that you utilize this service.

All counseling is highly confidential and no record will be released without your written permission. If you request that your HIV treatment records be released, your counseling records will not be included. A separate release form which is signed by you is required.

Zidovudine (ZDV) Prophylaxis

Because ZDV has been shown to improve life expectancy in some HIV infected individuals, and because of some supportive data in animal studies that ZDV may prevent infection by "HIV similar" viruses, interest has arisen in the medical community regarding the role of ZDV as an agent for post-exposure prophylaxis. Although Immune Globulin has been shown effective in preventing Hepatitis B infections, there is no evidence available at this time that ZDV is effective in preventing HIV infections.

Information about the safety of ZDV comes from HIV infected patients treated with this drug. Little is known about its safety in health care workers given ZDV after HIV exposure. It is probably safe to say however that serious toxicity associated with short-course ZDV therapy in otherwise healthy persons is likely to be rare. Experience suggests that subjective complaints, including flu-like symptoms, profound fatigue, and insomnia may be more common in this population. Questions remain unanswered regarding long-term effects (such as effects on the unborn child). For this reason, pregnant women are not eligible, and health care workers are asked to use barrier contraception during the course of ZDV, which is also advised because of the possibility of HIV infection after the exposure.

The risk of infection must balance or offset the risk of toxicity in any prophylaxis program. Individuals may decide to opt for ZDV until the HIV status of the source patient returns. If the source patient is HIV negative, ZDV is discontinued. WHether ZDV is given for a short course or for a total of 2 weeks post-exposure, health care workers must sign a consent form and be willing to submit to frequent check-ups, including blood tests (2, 6, 12, 24, and 48 weeks after exposure).

Anxiety and confusion is the normal response for anyone who has had an exposure. This factsheet is intended to raise questions for discussion with your OH or SHS clinician. Their guidance will help you reach a decision, based upon the nature of your exposure and any other relevant factors.

HEALTH CARE WORKER INFORMATION
ZIDOVUDINE CHEMOPROPHYLAXIS

BACKGROUND

Health care providers exposed to HIV (the AIDS virus) risk infection. The risk from a needlestick injury involving HIV-infected blood is approximately 0 .4% (1 in 250) but may be higher or lower depending on the severity of injury. The risk from exposures involving mucous membranes or non-intact skin is believed to be lower than the risk from a needlestick but is not zero. HIV is likely to produce serious illness and death after several years of infection.

Zidovudine is a drug which prevents HIV reproduction and delays disease caused by HIV in persons already infected. Zidovudine might prevent infection if administered soon after occupational exposure to HIV, but this is unproven. AT THE PRESENT TIME, THERE IS INSUFFICIENT SCIENTIFIC DATA TO STRONGLY SUPPORT OR DISCOURAGE THE USE OF ZIDOVUDINE FOR PREVENTING INFECTION IN OCCUPATIONALLY EXPOSED HEALTH CARE WORKERS.

Zidovudine is approved by the Food and Drug Administration for treatment of some patients with HIV infection, but it is not approved for use as a post-exposure prevention drug in health care workers. WRITTEN INFORMED CONSENT PRIOR TO ZIDOVUDINE TREATMENT THEREFORE IS REQUIRED.

Life-threatening or serious irreversible toxicities from zidovudine, when taken for short intervals, are not expected but could occur. Serious reversible toxicities (detailed in the attached consent form) have been observed in a small percentage of persons in the first six weeks of treatment. The optimal dose and duration of zidovudine treatment is not known. Individual variations in drug tolerance are expected. CAREFUL MEDICAL MONITORING SUPERVISED BY A TRAINED CLINICIAN DURING ZIDOVUDINE TREATMENT IS THEREFORE MANDATORY.

The effect of zidovudine on unborn children is unknown. Because harmful effects to the fetus might occur, ZIDOVUDINE IS NOT RECOMMENDED FOR PREGNANT WOMEN (OR FOR MEN OR WOMEN ENGAGING IN SEXUAL PRACTICES WHICH COULD LEAD TO PREGNANCY) DURING AND FOR AT LEAST FOUR WEEKS AFTER TREATMENT.

TREATMENT INSTRUCTIONS

-- Store medication in the original container in a cool, dry location; do not refrigerate.

-- Because zidovudine has a short half life it is essential that you take it every four hours while awake as directed. A suggested schedule is 7am, 11am, 3pm, 7pm, and 11pm. (The 3am dose is not required). The medication is best absorbed when taken on an empty stomach.

-- If you miss a dose: If less than two hours late, take the medication and resume previous schedule; If more than two hours late, skip the dose and resume previous schedule. Notify your clinician of the date and time of the missed dose at the next visit.

-- Other medications, including over-the-counter products, should not be taken without first consulting with your clinician, with the following exceptions:

a) for headaches, muscle or joint aches and pains, low grade fever - ibuprofen (Advil, Nuprin) 400 mg every six hours as needed for no more than 2 days; Call your physician if relief is not obtained within two days.

b) nausea - phosphated carbohydrate solution (Emetrol, Calm-X, Nausetrol, Eazol, Especol) one tablespoon, undiluted by other fluids, as needed to control nausea. Call if relief is not obtained in 36 hours.

-- Discuss all medications taken, their dosage and frequency with your clinician during your regular scheduled follow-up visits.

-- You will be evaluated by your clinician after two weeks and at six weeks, three months, six months, and 12 months from the date of your injury. A physical examination may be performed as needed at any of these visits. Laboratory tests will be performed at each visit.

-- You may call your clinician at ____________________ to discuss problems or concerns requiring attention before your next appointment.

HCW COPY

ZIDOVUDINE CHEMOPROPHYLAXIS IN OCCUPATIONALLY EXPOSED HEALTH CARE WORKERS

Voluntary Statement of Intent to Avoid Pregnancy: Women

To the best of my knowledge, I am not currently pregnant. Furthermore, I agree to avoid pregnancy while I am taking zidovudine during the next two weeks and for four weeks thereafter. Should I have sexual relations during this period, I will practice a form of contraception that is acceptable to my clinician. I will immediately contact my clinician if pregnancy is suspected. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my clinician except that I will not be treated with zidovudine.

participant's signature ____________ date ____________

name (PRINT) ____________ date ____________

Voluntary Statement of Intent to Avoid Pregnancy: Men

Should I have sexual relations during the next two weeks and for four weeks following completion of zidovudine treatment, I will practice a form of contraception that is acceptable to my clinician. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my physician except that I will not be treated with zidovudine.

participant's signature ____________ date ____________

name (PRINT) ____________ date ____________

AGENDA ITEM 3.1.3.

NORTHEASTERN OHIO UNIVERSITIES COLLEGE OF MEDICINE

Board of Trustees

December 3, 1990

Resolution 1990-41

WHEREAS, it was necessary to establish a policy to address the issues that might arise when an employee or medical student has an infection that poses a threat to patients, colleagues or to the individual's well being, and;

WHEREAS, the policy would assure the provision of expert and safe patient care, protect the personal rights of the individual, provide a safe work environment for all students and employees and reaffirm the responsibility of the medical community to care for persons who are seriously ill, and;

WHEREAS, the policy was reviewed by the Student Health and Counseling and Safety Committees, the Offices of Human Resources, Legal Affairs, Student Affairs, and Student Support, and;

WHEREAS, the Academic Council and the President and Dean approved the policy which represents the College's best attempts to address the difficult issues involved in these illnesses; NOW THEREFORE,

BE IT RESOLVED by the Board of Trustees of the Northeastern Ohio Universities College of Medicine that the "Policy Regarding Infectious Diseases or Conditions" is hereby approved.

Action APPROVED

Date of Action December 3, 1990

For the Board of Trustees
Richard W. Lewis, Secretary

(Reprinted with permission)

3349-2-10 POLICY REGARDING INFECTIOUS DISEASES OR CONDITIONS

(A) GENERAL CONSIDERATIONS

(1) PURPOSE

THIS POLICY WAS ESTABLISHED TO ADDRESS THE ISSUES THAT MIGHT ARISE WHEN AN EMPLOYEE OR MEDICAL STUDENT HAS AN INFECTION THAT POSES A THREAT TO PATIENTS, COLLEAGUES, OR TO THE INDIVIDUAL'S WELL BEING.

(2) GOALS

THE GOALS OF THIS POLICY ARE:

(a) TO ASSURE THE PROVISION OF EXPERT AND SAFE PATIENT CARE;

(b) TO PROTECT THE PERSONAL RIGHTS OF THE INDIVIDUAL, INCLUDING THE RIGHT TO FREEDOM FROM UNWARRANTED DISCRIMINATION;

(c) TO PROVIDE INFORMATION, EDUCATION AND COUNSELING THAT PROMOTES THE PERSONAL AND PROFESSIONAL WELL-BEING OF STUDENTS AND EMPLOYEES;

(d) TO PROVIDE A SAFE WORK ENVIRONMENT FOR ALL STUDENTS AND EMPLOYEES; AND

(e) TO REAFFIRM THE RESPONSIBILITY OF THE MEDICAL COMMUNITY TO CARE FOR PERSONS WHO ARE SERIOUSLY ILL.

(3) DEFINITIONS

(a) "ADMISSION" - THE PROCESS OF ALLOWING ENTRY INTO THE COLLEGE OF MEDICINE ACADEMIC PROGRAM.

(b) "MATRICULATE" - TO REGISTER (ENROLL) AS A MEMBER OF THE COLLEGE OF MEDICINE ACADEMIC PROGRAM.

(c) "INFECTIOUS DISEASE" - ANY DISEASE THAT CAN BE TRANSMITTED, WHETHER BY DIRECT PHYSICAL CONTACT, OR BY COMMON HANDLING OF ANY MATERIAL (INCLUDING BLOOD, BLOOD PRODUCTS OR OTHER BODY FLUIDS) THAT HAS BECOME CONTAMINATED BY INFECTIVE MICROORGANISMS.

(B) STUDENTS

(1) ADMISSION

NO STUDENT WILL BE DENIED ADMISSION TO THE NORTHEASTERN OHIO UNIVERSITIES COLLEGE OF MEDICINE SOLELY BECAUSE OF A DIAGNOSIS OF AN INFECTIOUS DISEASE.

STUDENTS WITH INJURIES OR ILLNESSES WHICH MAKE IT UNLIKELY THAT THEY WILL BE ABLE TO COMPLETE THE FOUR YEARS OF MEDICAL SCHOOL, OR ENGAGE IN THE ACTIVE PRACTICE OF MEDICINE, ARE ENCOURAGED TO EXAMINE THEIR MOTIVES FOR ENTERING SUCH PROFESSIONAL EDUCATION.

(2) MATRICULATION

THE COLLEGE OF MEDICINE MAY DEFER MATRICULATION OF OR MAY REMOVE A STUDENT FROM MATRICULATION IF HE/SHE HAS AN ILLNESS WHICH WOULD POSE A DANGER TO SELF OR OTHERS UNTIL THE TIME OF DANGER TO THAT STUDENT OR OTHERS HAS PASSED.

STUDENTS WHO ARE CONTINUALLY OR SEVERELY ILL OR INCAPACITATED WHILE ENROLLED AT THE COLLEGE OF MEDICINE ARE COUNSELED AS TO THE DIFFICULTY OF THE CURRICULUM AND MAY BE PLACED ON MEDICAL LEAVES OF ABSENCE UNTIL THEIR ILLNESS IS NO LONGER AN IMPEDIMENT TO THEIR MEDICAL STUDIES.

(C) EMPLOYEES

(1) EMPLOYMENT

NO APPLICANT WILL BE DENIED EMPLOYMENT AT THE NORTHEASTERN OHIO UNIVERSITIES COLLEGE OF MEDICINE SOLELY BECAUSE OF THE DIAGNOSIS OF AN INFECTIOUS DISEASE.

(2) EXCLUSION FROM WORKPLACE

AN EMPLOYEE WILL BE SUBJECT TO EXCLUSION FROM THE WORKPLACE IF THE INDIVIDUAL DEVELOPS INFECTIOUS DISEASE CHARACTERISTICS THAT POSE A RISK OF DANGER TO THAT EMPLOYEE OR TO OTHERS. IF THE COLLEGE OF MEDICINE DETERMINES THAT THE EMPLOYEE MUST BE EXCLUDED FROM THE WORKPLACE, THE EMPLOYEE SHALL HAVE FULL USE OF ACCUMULATED SICK DAYS AND/OR PERSONAL ILLNESS LEAVE.

(D) POLICY ADMINISTRATION

(1) STUDENTS

PROCEDURES FOR IMPLEMENTING SECTIONS OF THIS POLICY APPLICABLE TO STUDENTS SHALL BE ESTABLISHED BY THE ACADEMIC COUNCIL.

(2) EMPLOYEES

PROCEDURES FOR IMPLEMENTING SECTIONS OF THIS POLICY APPLICABLE TO EMPLOYEES SHALL BE ESTABLISHED BY THE INSTITUTIONAL SAFETY COMMITTEE.

Approved by Academic Council
May 2, 1990

PROCEDURES REGARDING A STUDENT OR EMPLOYEE WITH ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS), HUMAN IMMUNODEFICIENCY VIRUS (HIV), OR HEPATITIS

(A) GENERAL CONSIDERATION

(1) PURPOSE

THESE PROCEDURES ARE ADOPTED PURSUANT TO RULE 3349-2-10 OF THE OHIO ADMINISTRATIVE CODE WHICH IS INCORPORATED INTO THESE PROCEDURES AS IF FULLY REWRITTEN HEREIN. THESE PROCEDURES ARE DESIGNED TO SET FORTH NEOUCOM'S PROCEDURES REGARDING A STUDENT OR EMPLOYEE WITH AIDS AND HIV OR HEPATITIS.

(2) DEFINITIONS

(a) "AIDS" - A LABEL FOR A GROUP OF DISEASES WHICH RESULT FROM DESTRUCTION OF THE BODY'S IMMUNE SYSTEM BY A VIRUS NOW COMMONLY REFERRED TO AS HIV.

(b) "ARC" (AIDS RELATED COMPLEX) - A LABEL FOR A GROUP OF SYMPTOMS WHICH ARE BELIEVED TO BE CAUSED BY HIV, BUT WHICH MAY NOT ALWAYS LEAD TO AIDS.

(c) "HIV" - A VIRUS WHICH ATTACKS THE IMMUNE SYSTEM AND MAY CAUSE AIDS OR ARC. THE VIRUS IS TRANSMITTED THROUGH SEXUAL CONTACT AND EXPOSURE TO INFECTED BLOOD OR BLOOD COMPONENTS, AND PERINATALLY FROM MOTHER TO NEONATE.

(d) "HEPATITIS" - INFLAMMATION OF THE LIVER CAUSED BY INFECTIOUS OR TOXIC AGENTS, CHARACTERIZED BY JAUNDICE, ENLARGEMENT OF THE LIVER, FEVER, AND OTHER SYSTEMIC MANIFESTATIONS.

(B) SEROLOGIC TESTING

(1) ROUTINE OR RANDOM SEROLOGIC TESTING OF STUDENTS OR EMPLOYEES FOR EVIDENCE OF INFECTION WILL NOT BE CONDUCTED; HOWEVER, APPROPRIATE TESTING WILL BE AVAILABLE TO ANY STUDENT OR EMPLOYEE WHO WISHES IT.

(2) IF COLLEGE OF MEDICINE OFFICIALS HAVE A REASONABLE BELIEF THAT AN INDIVIDUAL POSES A DANGER TO HIM OR HERSELF OR OTHERS, THE COLLEGE MAY REQUIRE THE INDIVIDUAL TO SUBMIT TO TESTING WITH APPROPRIATE PRE AND POST TEST COUNSELING.

(C) REPORTING AND CONFIDENTIALITY

(1) STUDENTS

(a) STUDENTS WHO KNOW THEMSELVES TO BE CONFIRMED POSITIVE HIV OR WHO HAVE AN ACTIVE CASE OF AIDS, ARC, HEPATITIS OR OTHER INFECTIOUS DISEASE POSING A RISK TO THEMSELVES OR OTHERS MUST MAKE THIS

CONDITION KNOWN TO THE STUDENT HEALTH COORDINATOR OR THE DIRECTOR OF STUDENT SUPPORT WHO MUST DISCUSS THE SITUATION WITH THE DEAN FOR STUDENT AFFAIRS.

(b) INFORMATION FROM THE STUDENT'S MEDICAL RECORDS WILL BE HANDLED IN A CONFIDENTIAL MANNER. NO INFORMATION WILL BE RELEASED WITHOUT THE STUDENT'S PERMISSION EXCEPT AS IN PARAGRAPH (C)(1)(a) OF THIS RULE. FAILURE TO SECURE A RELEASE OF MEDICAL INFORMATION WILL NOT PREVENT APPROPRIATE DISCLOSURE BY THE STUDENT HEALTH COORDINATOR OR DIRECTOR OF STUDENT SUPPORT IF THE STUDENT POSES A DANGER TO HIMSELF OR OTHERS.

(c) ANY STUDENT WHO KNOWINGLY FAILS TO REPORT TO THE STUDENT HEALTH COORDINATOR OR THE DIRECTOR OF STUDENT SUPPORT THE STUDENT'S CONFIRMED POSITIVE HIV TEST, AIDS, ARC, OR OTHER INFECTIOUS DISEASE POSING A RISK TO THE STUDENT OR OTHERS WILL BE CONSIDERED IN VIOLATION OF THE RULES AND REGULATIONS OF THE COLLEGE OF MEDICINE AND WILL BE REFERRED TO THE STUDENT CONDUCT COUNCIL FOR APPROPRIATE ACTION.

(2) EMPLOYEES

(a) EMPLOYEES WHO KNOW THAT THEY HAVE AIDS, ARC, CONFIRMED POSITIVE HIV TEST OR OTHER INFECTIOUS DISEASE WHICH POSES A RISK TO THEMSELVES OR OTHERS MUST MAKE THIS CONDITION KNOWN TO THE VICE PROVOST FOR ACADEMIC AFFAIRS.

(b) INFORMATION REGARDING AIDS, ARC, HIV TESTING WILL BE HELD IN STRICT CONFIDENCE. NO ENTRY SHALL BE MADE IN THE PERSONNEL RECORDS OF THE COLLEGE. ANY NECESSARY DOCUMENTATION WILL BE MAINTAINED IN A CONFIDENTIAL MEDICAL FILE.

(c) INFORMATION REGARDING THE EMPLOYEE'S MEDICAL CONDITION SHALL BE RELEASED TO THOSE ADMINISTRATORS WHO SUPERVISE THE INFECTED EMPLOYEE ONLY WHEN NECESSARY FOR APPROPRIATE CARE OF THAT EMPLOYEE OR FOR THE PROTECTION OF OTHERS.

(d) ADMINISTRATORS SHALL USE SUCH INFORMATION ONLY TO THE EXTENT REQUIRED FOR THE PERFORMANCE OF THEIR DUTIES, AND SHALL NOT OTHERWISE DISSEMINATE OR ACT UPON SUCH INFORMATION.

(D) SPECIAL CONSIDERATIONS

(1) NO CURRENT REASON EXISTS TO RESTRICT STUDENTS OR EMPLOYEES WITH AIDS, ARC, OR A CONFIRMED POSITIVE HIV

TEST FROM THE ROOTSTOWN CAMPUS, SOCIAL ACTIVITIES, OR CLASSROOMS. SUCH STUDENTS OR EMPLOYEES WILL BE COUNSELED CONCERNING THE APPROPRIATE SAFEGUARDS AND BEHAVIOR EXPECTED IN ANY SCHOOL ACTIVITY.

(2) ALL STUDENTS AND EMPLOYEES IN ALL LABORATORIES WHERE THERE IS A POSSIBILITY OF ACCIDENTAL TRANSMISSION OF BLOOD PRODUCTS OR BODY FLUIDS WILL FOLLOW THE PROCEDURES FOR PREVENTION OF TRANSMISSION ESTABLISHED BY THE CENTER FOR DISEASE CONTROL.

(3) STUDENTS OR EMPLOYEES WITH AIDS, ARC, CONFIRMED POSITIVE HIV TESTS, OR OTHER INFECTIOUS DISEASE WHICH POSE A RISK TO OTHERS MAY NOT BE PERMITTED TO PARTICIPATE IN INVASIVE PROCEDURES.

IN ADDITION, STUDENTS WITH INFECTIOUS DISEASES POSING A RISK TO OTHERS MAY NOT BE PERMITTED TO SERVE ON CLERKSHIPS. FURTHER, SUCH STUDENTS MUST NOT BE INVOLVED IN THE DIRECT CARE OF IMMUNO-SUPPRESSED PATIENTS; NOR WILL THEY BE PUT AT RISK WHEN IN AN IMMUNO-SUPPRESSED STATE THEMSELVES BY HEIGHTENED EXPOSURE TO INFECTIOUS DISEASE IN CURRICULAR SETTINGS.

(4) NEOUCOM MAY CONSIDER WAIVING THE REQUIREMENTS FOR CERTAIN IMMUNIZATIONS WHICH MAY PRESENT A HEALTH HAZARD TO IMMUNO-SUPPRESSED STUDENTS OR EMPLOYEES.

(5) ANY ADDITIONAL NEED FOR ACCOMMODATIONS AND/OR RESTRICTIONS FOR STUDENTS OR EMPLOYEES WITH INFECTIOUS DISEASES WILL BE DETERMINED ON A CASE-BY-CASE BASIS.

(E) STUDENT INTERACTION WITH PATIENTS WITH AIDS WHO HAVE AIDS, ARC, OR A CONFIRMED POSITIVE HIV TEST

(1) ALL STUDENTS MUST BE AWARE OF AND FOLLOW APPROPRIATE PROCEDURES WHEN CARING FOR AIDS PATIENTS. NO STUDENT MAY REFUSE TO CARE FOR OR INTERACT WITH A PATIENT WHO HAS BEEN DIAGNOSED TO HAVE AIDS, ARC, A CONFIRMED POSITIVE HIV TEST, OR OTHER INFECTIOUS DISEASE SOLELY ON THIS BASIS. STUDENTS WHO HAVE REASON TO BELIEVE THAT THEY COULD PRESENT A HEALTH RISK TO AN IMMUNO-SUPPRESSED PATIENT MUST TELL THEIR CLERKSHIP DIRECTOR, PRECEPTOR OR ATTENDING PHYSICIAN.

(2) INTERACTION WITH AIDS PATIENTS BY PREGNANT STUDENTS WILL BE CONSIDERED ON AN INDIVIDUAL BASIS.

(F) EDUCATION

NEOUCOM'S PRIMARY RESPONSE TO THE AIDS EPIDEMIC SHOULD BE TO EDUCATE. IT IS RECOMMENDED THAT THE OVERALL CURRICULUM COMMITTEE ASSURE THAT THERE IS SUFFICIENT INFORMATION REGARDING HIV INFECTION DURING BOTH THE CLINICAL AND PRECLINICAL YEARS. THE COLLEGE OF MEDICINE WILL PROVIDE APPROPRIATE EDUCATIONAL SESSIONS FOR ALL EMPLOYEES.

(G) AMENDMENTS

THE DEAN OF THE COLLEGE OF MEDICINE MAY MODIFY THE PROCEDURES ESTABLISHED HEREIN, UNLESS THE MODIFICATION(S) CONSTITUTE A SUBSTANTIAL DEPARTURE FROM THE PURPOSE AND INTENT OF RULE 3349-2-10 OF THE OHIO ADMINISTRATIVE CODE.

Approved by Academic Council
May 2, 1990

POLICY AND PROCEDURES MANUAL

UM UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

SECTION: INFECTION CONTROL

VOL.: II

POLICY NUMBER: 33.4

EFFECTIVE: September 13, 1983

REVISION: 4/86, 12/88, 9/90

REVIEWED: 10/84,87,89

SUBJECT: Management of Potentially Infectious Personnel

SOURCE: Infection Control Committee

POLICY

Patients shall not be exposed to personnel posing an infection hazard.

PROCEDURES

1. EMPLOYEE HEALTH SERVICE (EHS). All UMHC personnel who may have a conditions which pose an infection hazard to patients or coworkers shall report to the EHS immediately. Whenever there is a reasonable doubt about any person posing an infection hazard there should be phone consultation with the EHS or the person should report to the EHS for evaluation. The EHS should be used during its regular hours. During off hours the Emergency Department should be used.

2. An EHS physician or, according to written protocols, the EHS nurse will exclude the person from the Hospital if the employee has a condition which would cause him/her to be placed in isolation except as follows:

   a. Herpes simplex virus: Personnel with active Herpes lesions (1) may perform all non-patient care activities, (2) may not perform any patient care activities involving babies less than one month old or less than 2kg, dermatology patients, obstetric patients or burn patients, (3) may perform patient care activities involving other patients if the herpes simplex lesions are confined. Pateint care activities are defined as activities involving touching patients (including handling patients while wearing gloves). To confine a herpes simplex lesion, personnel should wear a mask for oral lesions, gloves for Whitlow or other hand lesions or bandage lesions on other exposed skin areas.

   b. Varicella-Zoster virus, exposure: Exposed, susceptible (a. no history of chickenpox or zoster and serology not available, or b. seronegative) personnel must, while in the Hospital, wear a mask from the 10th day after first exposure until the 21st day after last exposure.

APPROVED:

DATE: 9/28/90

TITLE: General Director / Chief of Staff

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c. Varicella-Zoster virus, zoster: Personnel with active zoster shall be excluded from all patient care. Zoster is considered active until all lesions are dry and crusted.

d. Measles virus, exposure: Exposed, susceptible personnel must wear a mask from the 5th day after first exposure until the 21st day after last exposure. See Policy 33.23, Measles (Rubeola Prevention and Control).

e. Stool carriage of enteric bacteria: Personnel infected by enteric pathogens should be excluded from patient care or food preparation only if they have had diarrhea in the prior 24 hours.

f. Rubella virus, exposure: Exposed, susceptible (immunity is established only by vaccination or serology) personnel shall be excluded from the Hospital from the 14th day after first exposure to the 21st day after last exposure.

g. Strep Throat

HIGH RISK AREA:	effective therapy for greater than or eqaul to 72 hours, afebrile for greater than or equal to 12 hours, and asymptomatic
OTHER AREAS:	effective therapy for 48 hours, afebrile for greater than or equal to 12 hours, and asymptomatic

High risk areas: OR, surgical patient care units, nursery, all ICUs, cardiac cath lab, hemodialysis and food preparation areas.

A person working in the 48-72 hour range shall not take care of patients with open wounds, burns, and immunocompromised patients.

h. Skin infections: Personnel with active cellulitis or purulent skin infections in any body location and employees with desquamative dermatitis in any body location positive for Staphylococcus aureus or Streptococcus pyogenes shall be barred from all patient contact. These guidelines are intended to be applied by the Employee Health Service physician. His/her judgment about the gravity of the person's skin condition and the necessity to culture the lesion shall prevail.

i. Cytomegalovirus: no exclusions

j. Personnel colonized with Methicillin-resistant Staphylococcus aureus or aminoglycoside resistant Gram negative bacilli shall be excluded from patient care only if there is epidemiologic evidence suggesting transmission from the particular person to patients.

k. Infectious conjunctivitis: exclude from direct patient care activities for duration of illness.

l. Acute respiratory illness. Personnel with mild acute respiratory infection, if not able to be excluded from work, may work as long as they wear a mask during patient contact.

3. For personnel who are hepatitis B carriers see Policy 33.6. For personnel who are HIV carriers see Policy 33.19.

4. Personnel returning to work after exclusion should report to the Employee Health Service or to the Emergency Department, as appropriate.

5. Hospital employees, staff, and others rendering care to patients in UMHC who, through their blood or body fluids, cause parenteral or mucous membrane exposure, including mouth-to-mouth resuscitation, to a patient, must promptly report to the Employee Health Service, or off hours, to the Emergency Department to permit proper management of the exposed patient. An incident report will be filled out in all these instances. Management of these exposures is the converse, except as noted below, of patient-to-healthcare worker exposures as set forth in Policy 33.18 -- Needlestick or Other Significant Exposure to Blood or Other Body Fluids. The person who is the source of exposure to the patient must provide a blood specimen for HBV and HIV testing with one exception, if the exposure occurred during mouth-to-mouth resuscitation, the person will have the option of refusing the hepatitis B and/or anti-HIV test.

6. Administration of this policy shall be managed in accordance with existing Hospital Personnel Policies and Bargaining Unit Contracts.

POLICY AND PROCEDURES MANUAL

UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

SECTION: INFECTION CONTROL

VOL.: II

POLICY NUMBER: 33.18

EFFECTIVE: March 10, 1987

REVISION: 7/88, 8/88, 9/88, 10/88, 2/89, 5/89, 12/90

REVIEWED: 8/87, 10/89

SUBJECT: Needlestick or Other Significant Exposure to Blood or Other Body Fluids

SOURCE: Infection Control Committee
Medical Staff-Hospital Council

POLICY

Needlestick or other significant exposure to blood or other body fluids has the potential of transmitting the hepatitis B virus (HBV), the viruses of non-A, non-B hepatitis, the Human Immunodeficiency Virus (HIV, the virus of AIDS) and certain other pathogens. Exposures should be managed to minimize the chance of transmission and provide full documentation of their nature and consequences.

PROCEDURE

1. **Report for Evaluation.** All persons who may have had a significant blood or body fluid exposure should notify their supervisor and report for evaluation immediately. Exposure evaluation and management should be carried out during regular hours as follows: hospital employees, residents, fellows, and volunteers in the UMHC Employee Health Service (EHS); students in Boynton Health Service (BHS); Medical-Dental Staff, other specified hospital professional personnel (psychologists), non-hospital ancillary personnel, and other UM employees in the UMHC Emergency Department (ED). Persons in more than one of the aforementioned categories should be seen in the area relevant to the activity underway at the time of the exposure. During non-regular hours all persons should be seen in the ED. UMHC will cover the cost of source evaluations of UMHC patients for all exposures and for serologies, immune globulin (IG), hepatitis B immune globulin (HBIG), HBV vaccine, zidovudine for hospital employees, residents, fellows or volunteers. Exposure management may continue even after the exposed person has ended his or her affiliation with the University.

2. **Incident Report.** An incident report should be completed for all evaluated blood or body fluid exposures. The incident report should be initiated by the exposed person, completed by the evaluating site (EHS, ED or BHS), and returned by the exposed person to his or her supervisor or department.

3. **First Report of Injury.** First Reports of Injury should be completed if the exposure is judged significant or the exposed person is evaluated in the ED. Required reports should be completed by the exposed person's supervisor or, if the exposed person prefers, the Hospital Epidemiologist.

APPROVED:

TITLE: General Director / Chief of Staff

DATE: 1/7/91

A. **Hospital employees, residents, fellows, volunteers.** The First Report of Injury should be completed within 72 hours after it is determined that the exposure was to a source positive for HBV, HIV, non-A, non-B hepatitis, or to other pathogens requiring Blood Precautions (see policy 33.21).

B. **Other personnel.** The First Report of Injury should be completed within 72 hours after the exposure is reported (regardless of the infectiousness of the source).

4. **Unaffiliated persons.** If a person not affiliated with the University of Minnesota reports a significant blood or body fluid exposure during the course of health care delivery to, or law enforcement activities involving, an individual currently hospitalized at the UMHC the UMHC will evaluate the exposure source. If the exposed person meets the Minnesota statute definition of an Emergency Medical Services Person, UMHC, acting through the patient's attending physician, will evaluate the exposure source even if the source is no longer hospitalized. The exposed person should report to their occupational health physician or their private physician. The physician or the exposed person should report the exposure to the UMHC Hospital Epidemiologist. If the source has died, the source's remains are still present at UMHC, and the exposed person meets the Minnesota statute definition of an Emergency Medical Services Personnel then the source's representative will be informed that state law obliges us to test the source. Otherwise, the Hospital Epidemiologist or designee will carry out the source evaluation as per paragraph 9. The Hospital Epidemiologist will communicate the results of the source studies to the exposed person and the reporting physician.

5. **Exposed Patient.** For management of potentially significant exposures of patients to blood or body fluids of personnel, see Policy 33.4, Management of Potentially Infectious Personnel.

6. **Significance.** An MD or RN will judge the significance of the exposure. Exposure is considered significant when there has been (1) percutaneous inoculation of blood or body fluid by a contaminated instrument, sharp or needle, (2) fresh (less than 24 hr) cut or mucous membrane contact (e.g., splash to the eye or mouth or mouth-to-mouth resuscitation) by blood or body fluid, or (3) cutaneous exposure involving large amounts of blood or prolonged contact with blood, especially when the exposed skin is chapped, abraded or afflicted with dermatitis. If the exposure is judged non-significant no further follow-up is required. Pregnant and immunosuppressed

persons should be managed as are other persons except as indicated in 9A. Coagulation factor concentrate will be considered hazardous for HIV, HBV, (see paragraphs 9A and 9B); the hazard from exposure to blood for autologous transfusion or pheresis products will be treated as would a known source exposure (see section 9); screened untreated blood components will be considered non-A, non-B hepatitis hazardous (see paragraph 9C) but not HIV or HBV hazardous.

7. **Immune Globulin.** All personnel who have had a significant blood or body fluid exposure will be offered a single dose of IG (.06ml/kg) at the initial evaluation unless they are judged to need HBIG (see algorithm). IG is not needed if the exposed person has received any immune globulin in the past month. IG is contraindicated in persons with total agammaglobulinemia; consultation should be obtained if there is uncertainty about this issue.

8. **Baseline and Follow-up Serologies.** All personnel who have had a significant blood or body fluid exposure will be offered baseline and 12 month follow-up serologies: (1) anti-HBc, unless the exposed person has had a negative anti-HBc in the prior month or has had hepatitis B, (2) anti- HCV, unless the exposed person has had a negative anti-HCV in the prior month or has ever had a positive anti-HCV, and (3) anti-HIV, unless the exposed person has had a negative anti-HIV in the prior month or is HIV infected. In addition baseline anti-HBs may be indicated - see paragraph 9A. The exposed person will be informed that establishing lack of prior infection at the time of exposure will strengthen worker's compensation claims. In addition, follow-up anti-HBs, anti-HBc, and/or anti-HIV serologies may be indicated - see paragraph 9A and 9B.

9. **Source Identity Known.** If the exposure is significant and the source is known, the following laboratory information about the source person will be sought: anti-HIV, anti-HCV, HBsAg, anti-HBs, and anti-HBc test results. Any of these studies may be omitted if the source person has been tested within the 1 month prior to the exposure or if the source person is an established carrier. The laboratory studies will be sought by having the exposed person take a form letter and requisitions to the source's physician requesting that the physician order the appropriate studies. The letter will request that the physician discuss the implications of a positive anti-HIV serology with the patient before the test is ordered. The form letter and requisition may also be taken, by the exposed person, to the charge nurse or nurse manager who should give the letter to the patient's physician. If the exposed person needs assistance, the EHS (or the ED or BHS) will assist in the delivery of the form letter and requisition. If the source has died, the source's representative must be informed of the planned tests before testing

is performed. If the representative objects (except as indicated in section 4) the testing should not be performed. If a known source does not undergo HBV or HIV testing and does not meet 9A or 9B criteria for untested persons, the exposed person should be managed as if the source were unknown. If it becomes known that the source has had recent HBV (6 months), HCV (1 year), or HIV (2 years) exposure, the exposed person may request follow-up serologies as described in paragraphs 9A or 9B, respectively.

A. **Hepatitis B.** Significant hepatitis B exposure occurs if the exposed person is possibly hepatitis B susceptible (e.g., has never had a positive anti-HBc or positive HBsAg) and the source is (1) HBsAg positive, (2) anti-HBc positive, HBsAg negative, and anti-HBs negative, or (3) when an untested source is likely to be hepatitis B infectious. When the HBV laboratory studies of the source are unknown or when negative studies were obtained more than 1 month previously, the physician will judge if the source is likely to be a hepatitis B carrier so that HBIG administration, if appropriate, may be given at the time the exposed person is first seen. Persons likely to be hepatitis B infectious include needle-using addicts, patients who have had hemodialysis, recipients of multiple units of blood, male homosexuals, and Southeastern Asian immigrants.

Significant HBV exposures will be managed using the algorithm. Baseline anti-HBs and anti-HBc should be obtained unless performed within 1 month. Immune globulin (IG) or HBIG, when indicated according to the algorithm, will be administered (.06ml/kg IM) immediately (not delayed until the results of exposed person's current HB battery are available). IG or HBIG need not be given if administered in the prior 1 month. HBV vaccine administration may be delayed until the results of the baseline anti-HBs and anti-HBc on the exposed person and the HBV infectiousness of the source are known. If the exposed person is pregnant, she should have a HBsAg determination near term. If an exposed person becomes pregnant between the time of the exposure and the 9 month post exposure anti-HBc test and if the anti-HBc test is positive, she should also have an HBsAg determination near term.

If the exposed person did not receive HBIG and the source is determined to be HBV infectious within 7 days of the exposure, the exposed person should also receive HBIG and an anti-HBs determination and be managed according to the algorithm.

B. **HIV exposure.** Significant HIV exposure occurs if the exposed person is not HIV infected and the source is anti-HIV seropositive (western blot positive), anti-HIV indeterminant (EIA reactive and western blot negative or indeterminant) plus positive HIV risk history, HIV antigen positive, HIV culture positive, has AIDS, is untested and has clinical illness suggestive of HIV infection, or refuses a requested anti-HIV serology. The blood bank will perform source anti-HIV EIA tests within 24 hrs of the arrival in the blood bank of source specimens. The results of the initial EIA, if reactive, will be immediately phoned to the director of the EHS, the ED physician on duty, the Medical Director of BHS, or the Hospital Epidemiologist. The physician phoned will judge if the exposure is significant based on the strength of the reaction, other clinical and laboratory information about the source (e.g., hepatitis B status, absolute lymphocyte count), and, possibly, a risk history interview of the source.

The exposed person will be offered an anti-HIV serology at the time of exposure unless he or she is known to have been HIV infected or had an anti-HIV serology obtained in the past 1 month. The exposed person will be informed that establishing lack of infection at the time of exposure will strengthen workers' compensation claims. Follow up anti-HIV serologies will be offered at 6 weeks, 12 weeks, 6 months, and 12 months after the exposure unless the exposed person has a prior positive test. The exposed, seronegative person should be advised of recommendations for preventing HIV transmission for at least 3 months (12 months if post exposure zidovudine is administered) after the exposure until the HIV serology status is known. The recommendations would include avoidance of a) unprotected sexual activity, b) donation of blood, body fluids, or organs, c) pregnancy, d) needle sharing. In addition the exposed person should be advised to report and seek medical evaluation for any acute febrile illness that occurs within 12 weeks of exposure. Persons with significant blood or body fluid exposure to HIV containing materials will be offered zidovudine 200 mg q 4 hours for 42 days. The prophylaxis should be discontinued if it was begun based on an initial reactive EIA which is subsequently determined to be a false positive. These exposures will be those occurring in the prior 96 hours. For persons electing to take zidovudine, monitoring of CBC and differential count will be performed every two weeks as long as the zidovudine is being taken.

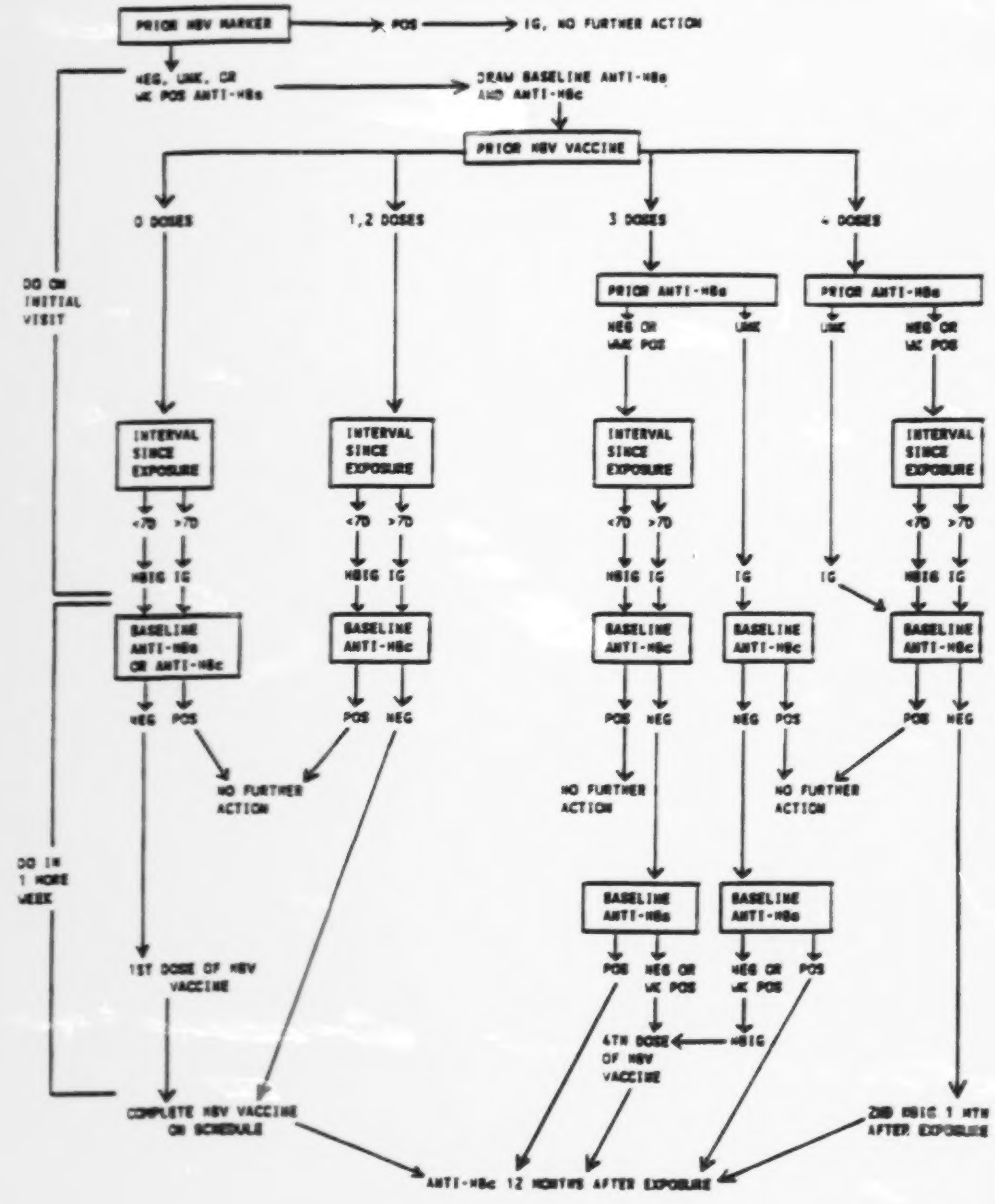
If an exposed person is discovered to be HIV-infected after exposure to a source found to be anti-HIV negative at the time of the exposure,, effort will be made to retest the source patient.

C. **Hepatitis C Virus or Non-A, Non-B, Non-C hepatitis.** Immediate administration of the single dose of IG (or HBIG, if indicated) should be strongly encouraged if the source is known, subsequently demonstrated or is suspected of being a Hepatitis C or non-A, non-B, Non-C hepatitis virus carrier.

D. **Other Pathogens.** Other pathogens transmissible by blood exposure are listed in Policy 33.21. Management of exposure to these pathogens will be individualized in consultation with the Hospital Epidemiologists.

10. **Source Identity Unknown.** Baseline and follow-up serologies should be performed as indicated in paragraph 8.

Algorithm For Management of HBV Exposure


PRIOR HBV MARKER
POS
IG, NO FURTHER ACTION
NEG, UNK, OR WK POS ANTI-HBs
DRAW BASELINE ANTI-HBs AND ANTI-HBc
PRIOR HBV VACCINE
0 DOSES
1,2 DOSES
3 DOSES
4 DOSES
DO ON INITIAL VISIT
PRIOR ANTI-HBs
NEG OR WAK POS
UNK
PRIOR ANTI-HBs
UNK
NEG OR WK POS
INTERVAL SINCE EXPOSURE
<7D
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HBIG
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BASELINE ANTI-HBs OR ANTI-HBc
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INTERVAL SINCE EXPOSURE
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BASELINE ANTI-HBc
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NEG
NO FURTHER ACTION
INTERVAL SINCE EXPOSURE
<7D
>7D
HBIG
IG
BASELINE ANTI-HBc
POS
NEG
NO FURTHER ACTION
IG
BASELINE ANTI-HBc
NEG
POS
NO FURTHER ACTION
IG
INTERVAL SINCE EXPOSURE
<7D
>7D
HBIG
IG
BASELINE ANTI-HBc
POS
NEG
DO IN 1 MORE WEEK
BASELINE ANTI-HBs
POS
NEG OR WK POS
BASELINE ANTI-HBs
NEG OR WK POS
POS
1ST DOSE OF HBV VACCINE
4TH DOSE OF HBV VACCINE
HBIG
COMPLETE HBV VACCINE ON SCHEDULE
2ND HBIG 1 MTH AFTER EXPOSURE
ANTI-HBc 12 MONTHS AFTER EXPOSURE

POLICY AND PROCEDURES MANUAL

UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

SECTION: INFECTION CONTROL
VOL.: II
POLICY NUMBER: 33.19
EFFECTIVE: July 14, 1987
REVISION: 12/87, 9/90
REVIEWED: 10/89

SUBJECT: HIV Control

SOURCE: Infection Control Committee
Medical Staff-Hospital Council

POLICY

All reasonable measures shall be taken to minimize the possibility of human immunodeficiency virus (HIV) transmission within UMHC.

PROCEDURE

1. **Definitions** used in this policy:

   a. **HIV Infected**. Persons deemed HIV infectious as set forth in Section 4.B. Policy 33.21, Universal Blood and Body Substance Technique and Isolation.

   b. **UMHC Personnel**. UMHC employees, residents and fellows, members of the Medical-Dental Staff, Specified Professional Personnel, Non-Hospital Ancillary Personnel, and students who have patient contact at UMHC.

   c. **Invasive Procedures**. Procedures in which one's hand and any sharp instruments may simultaneously be in a vulnerable patient cavity such as an operative wound, the abdominal cavity, or the mouth.

   d. **HIV Infection Risk Activities**. Activities placing one at risk of HIV infection as enumerated by the CDC for the exclusion of persons from blood or plasma donations. These include males who have had one or more sexual contacts with another male since 1977 and all persons who have had any unprotected sexual contacts or blood transfusion in sub-Saharan Africa or Haiti, shared needles used for self injection of drugs since 1977, receipt since 1977 of coagulation factor concentrate that has not been heat treated, been a prostitute at any time since 1977, and sexual contact with any person who has participated in one or more of the aforementioned HIV infection risk activities.

APPROVED: Robert Maxwell
TITLE: Hospital Director / Chief of Staff
DATE: 9/28/90

2. **All HIV Infected UMHC Personnel.**

   a. HIV infected UMHC personnel shall be excluded from patient care activity unless there is a determination by the Hospital Epidemiologist that the employee understands the mechanisms of HIV transmission and will take steps necessary to prevent HIV transmission.

   b. HIV infected UMHC personnel shall meet regularly with the Hospital Epidemiologist at the discretion of the Hospital Epidemiologist.

3. **UMHC Personnel Who Perform Invasive Procedures.**

   a. UMHC personnel who perform invasive procedures and have engaged in HIV infection risk activities shall determine their anti-HIV status. Anti-HIV negative UMHC personnel who continue to engage in HIV risk activities should monitor their anti-HIV status as appropriate. Such persons may seek counsel with the Hospital Epidemiologist as to what is appropriate.

   b. HIV infected UMHC personnel who perform invasive procedures shall inform the Hospital Epidemiologist and their Chief of Service of their HIV infection status.

   c. HIV infected UMHC personnel shall not continue to perform invasive procedures unless the Chief of Service and the Hospital Epidemiologist are satisfied that the person will exercise appropriate infection control safeguards. Under no circumstances may the person perform procedures requiring blind, "by feel" manipulation of sharp instruments (e.g., vaginal hysterectomy).

4. **Patient Exposure.** In case of accidental transfer of blood from an HIV infected UMHC person to a patient, the HIV infected UMHC person shall inform the patient's staff physician, and the Hospital Epidemiologist. The patient's physician shall assume responsibility for assuring that the patient is informed. The Hospital Epidemiologist shall assure follow-up of the patient.

5. **Needlestick.** See Policy 33.18, Needlestick or Other Significant Exposure to Blood or Other Body Fluids.

6. **HIV isolation policy.** See Policy 33.21, Universal Blood and Body Substance Technique and Isolation, for isolation policy for HIV infected patients.

AIDS GUIDELINES FOR STANFORD UNIVERSITY MEDICAL CENTER

During the past few years, Stanford University Medical Center has provided information about AIDS to staff employees and others in the Medical Center environment. The purpose of these guidelines is to continue that effort, and to provide particular guidance for dealing with AIDS in the workplace. These guidelines are based on the most recent information available from the Center for Disease Control, from Stanford physicians, and from others with extensive knowledge of the subject. As new knowledge becomes available it will be publicized and, if appropriate, revisions to these guidelines will be made.

Fundamental to the Medical Center's response to AIDS is the desire to respect the rights and concerns of those with the AIDS virus as well as those who are currently free of this virus. Education, understanding and compassion on the part of every faculty and staff member are crucial if we are to deal effectively and responsibly with these issues.

WHAT IS AIDS?

ACQUIRED IMMUNE DEFICIENCY SYNDROME is a serious condition characterized by a defect in natural immunity against disease. This defect is caused by the AIDS virus. With this loss in immune response the invididividual may be susceptible to a host of what are called "opportunistic infections". This AIDS may be defined as the end stage in a compound process of infections. It is a condition characterized by a person who first contracts the AIDS virus and then develops unusual infections or tumors not ordinarily seen in otherwise healthy persons.

The AIDS virus (HIV) is not transmitted through casual contact. It is specifically transmitted through sexual contact, by shared needles or by direct infusion of infected blood or blood products. Current medical information suggests that even asymptomatic carriers of the virus are fully capable of transmitting the AIDS virus to others.

WHAT IS ARC?

ARC stands for AIDS-RELATED COMPLEX. ARC is a term that is used to characterize an AIDS-related condition that carries a significant but still imprecisely determined likelihood of progression to full-blown AIDS. ARC conditions include prolonged fever, unexplained weight loss, swollen lymph glands and fungus infection of mouth and throat.

(Reprinted with permission)

WHAT ARE THE CHANCES OF GETTING AIDS AT WORK?

Our best information indicates that there is no known risk of transmission of the AIDS virus through ordinary office work activities (non-patient care work activities). However a policy has been developed by the Medical Center Infection Control Committee for all healthcare workers to follow to prevent the transmission of AIDS from both known and unknown sources. The Committee noted that the incidence of infected patients at Stanford University Medical Center was unknown and therefore the procedures listed below will be followed in all situations where workers may be exposed through contact with blood, body fluids, or tissue.

1) Healthcare workers must wear gloves for contact with blood and body fluids from ALL PATIENTS. Gloves must be changed after every new patient contact and more frequently if contaminated. If punctured, gloves should be removed immediately and discarded and hands washed with warm water and soap before new gloves are put on.

2) Masks and goggles or safety glasses are to be worn when splashing or aerosolization of body fluids may be anticipated such as during bronchoscopy procedures, or caring for a patient with upper gastrointestinal bleeding.

3) Barrier gowns made of impermeable material to prevent bodily fluids from contacting the clothes and skin are available.

4) Workers shall not recap needles or remove them from disposable syringes. Red plastic containers are available in all patient rooms for appropriate needle disposal.

5) Workers who are responsible for cleaning instruments or patient care areas contaminated with blood or body fluids are are required to wear heavy latex gloves for these procedures. Before removing the gloves, they should be thoroughly cleaned with soap and hot water and disinfected with bleach (10% solution).

RISK OF TRANSMISSION OF HIV INFECTION FROM EMPLOYEES TO PATIENTS

The risk of transmission of HIV infection from employees to patients is low. It is possible that the introduction of blood or serous fluid from the infected employee to the open tissue of a patient might result in transmission of HIV infection. (example: employee sustains a needle stick or scalpel injury during surgery or other invasive procedure.)

The Center for Disease Control recommends that serologic testing be made available to employees who may wish to know their HIV status. Testing is currently available to employees through our Virology laboratory. This test can be ordered by the employee's private physician. Hospital employees can obtain an order for the test through Employee Health. If there has been no known occupational exposure to AIDS, the employee will be billed for the blood test.

RISK OF OCCUPATIONAL ACQUISITION OF OTHER INFECTIOUS DISEASE BY EMPLOYEES WITH AIDS

Employees infected with AIDS have defective immune systems and are at increased risk of acquiring and experiencing serious complications from other infectious diseases. Supervisors should:

1) Counsel employees about the potential risk associated with taking care of patients with transmissible infections.

2) Stress the importance of all employees strictly complying with established infection control procedures, including double gloving during surgical or or other invasive procedures.

Food Service employees known to be infected with AIDS will not be restricted from work unless they have evidence of other infections or illnesses for which any food service worker would be restricted.

The Infection Control Committee will continue to meet and review new information as it becomes available. However, it is important for employees to carefully observe precautions in the performance of their duties to prevent exposure both to AIDS and other diseases which may also be transmitted through contact with blood.

EMPLOYEES DIAGNOSED WITH AIDS

The decision whether and when to disclose the diagnosis to others is a very personal one. As with other diagnoses, some employees with AIDS may choose to disclose their illness to supervisors and co-workers. This decision rests solely with the employee. Under California law an employee's medical diagnosis may not be released without the employee's permission, except for processing of such items as disability claims or other claims for compensation or as otherwise provided by law.

In all cases of illness, including AIDS, the employee's supervisor may not require a specific diagnosis. If the employee requests special accommodations due to the disability, the request should be reviewed with an Employee Relations representative.

A supervisor may require certification from a physician that an employee is able to perform the duties of the job; that some limitations have been imposed on the employee's ability to perform due to the illness; or the amount of time needed for recuperation. Employees with AIDS are eligible for disability payments and medical leaves of absence to the extent provided by current Medical Center policy for all disabilities. Contact your Benefits office for details regarding health insurance and disability benefits. (See Page 6 for phone numbers of Benefits offices.)

If an employee reveals that he/she has AIDS or a related condition, and the supervisor believes the working environment present greater than normal risk of exposure to infectious agents (i.e. certain laboratories, child care settings, etc.), the supervisor should encourage the employee to review the circumstances of the work environment with his/her personal treating physician.

DEPARTMENT HEADS, ADMINISTRATORS, SUPERVISORS AND CO-WORKERS OF EMPLOYEES WITH AIDS

Department Heads are responsible for ensuring that the most current information about AIDS and its transmission is available to faculty and staff in their departments. They should also be knowledgeable about specially trained people who can be called upon to answer employee questions. A list of such resources is included in this brochure. If a supervisor has an immediate need for assistance or guidance, the Employee Relations section of Human Resources should be contacted as a first resource.

Should an employee express concern about working with a co-worker who has AIDS, or who is a member of a high risk group, the supervisor should arrange for that employee to talk to an expert resource to try to allay the concern. If the employee is still concerned, the supervisor will arrange for the concerned employee to discuss transfer possibilities to other positions. Because the AIDS virus is not transmitted in normal work settings, employees do not have a right to reassignment. Employee Relations staff may be contacted as a resource in this area also.

EMPLOYMENT QUESTIONS ABOUT AIDS, AND TESTING FOR THE AIDS VIRUS

Because there is no evidence that the AIDS virus can be transmitted via work relationships, Stanford University Medical Center will not:

1) Ask applicants for employment or current employees if they have AIDS, ARC, the AIDS virus or if they are a member of a high risk group, except as permitted by law.

2) Make a hiring, continuing employment or promotion decision based on the suspicion or knowledge that a person has AIDS, ARC, the AIDS virus or is a member of a high risk group.

3) Require anyone to take a test for the AIDS virus as a condition of employment.

An applicant or current employee who volunteers that he or she has AIDS, ARC, the AIDS virus or is a member of a high risk group will not be discriminated against in any employment decision. The relevant question is whether or not the person can perform the job.

CONFIDENTIALITY OF MEDICAL INFORMATION: Stanford University Medical Center does not provide information concerning HIV testing or status of employees to any person, group, agency, insurance company, employer, or institution without the written consent of the employee. Under California law, a health provider may disclose the HIV test results of a patient to another health care provider in order to facilitate the provision of medical care.

THE IMPORTANCE OF INFORMATION

We know that for individuals the best defense against AIDS is information. That same logic serves us well for dealing with the issue in the workplace. Unfounded fears, speculation and misinformation need to be countered with informed, rational and thoughtful information, advice and counseling. While supervisors and department heads have special responsibilities in this regard, everyone can help. When in doubt, talk to your department head or contact one of the resources listed in this brochure. They are eager and willing to help.

Please print. Facilitator should complete this form with the employee. Please answer all questions on this form.

INITIAL REPORT
BLOOD/BODY FLUID EXPOSURE

STANFORD UNIVERSITY MEDICAL CENTER

B/BF # 0000

___ University Employee
___ Hospital Employee
___ Clinic Employee
___ Student
___ Other___________

HISTORY OF EXPOSURE

1.NAME

2.WHAT FLUID WERE YOU EXPOSED TO?

☐ BLOOD

☐ CEREBROSPINAL FLUID ☐ PLEURAL, PERICARDIAL, OR PERITONEAL FLUID

☐ SYNOVIAL FLUID ☐ VAGINAL SECRETIONS OR AMNIOTIC FLUID ☐ SEMEN

☐ FECES, URINE, SPUTUM, NASAL SECRETIONS, SALIVA, TEARS, OR VOMITUS

3.WAS THE FLUID BLOOD-STAINED? ☐ YES ☐ NO

4.HOW WERE YOU EXPOSED TO BLOOD OR A BODY FLUID?

☐ SPLASHED

☐ STUCK WITH NEEDLE

☐ CUT WITH SCALPEL OR OTHER SHARP INSTRUMENT

☐ OTHER: DESCRIBE FULLY-

DATE OF EXPOSURE

TIME OF EXPOSURE

___ am ___ pm

SHIFT: ☐ day

☐ evening ☐ night

5.DID THE WOUND BLEED? ☐ YES ☐ NO

6.HOW MUCH FLUID WERE YOU EXPOSED TO?

WAS THE FLUID INJECTED FROM A SYRINGE? ☐ YES ☐ NO

7.WHAT PART OF YOUR BODY WAS EXPOSED?

8.WHAT WERE YOU DOING WHEN YOU WERE EXPOSED?

9.YOUR DEPARTMENT:

10.YOUR JOB TITLE:

11.YOUR SUPERVISOR'S NAME:

12.WHERE WERE YOU WHEN YOU WERE EXPOSED?

13.WAS THE SOURCE KNOWN? ☐ YES ☐ NO

14.WHAT WAS THE PATIENT'S NAME?

WAS THIS A RESEARCH SOURCE?

☐ YES ☐ NO

DESCRIBE COMPLETELY:

15.WHAT ARE THE NAMES OF THE OTHER PEOPLE WHO SAW YOUR EXPOSURE?

16.DID YOU WASH AFTER THE EXPOSURE?

☐ YES ☐ NO

WHAT OTHER FIRST AID WAS PERFORMED BEFORE YOU CAME HERE?

FACILITATOR SIGNATURE

B/BF Exp (11/3/90)
V1.0_mod(12/12/90)

INSTRUCTIONS FOR EMPLOYEE HEALTH: -Retain original form in confidential E.H. file

-Make two copies (with name blacked-out) and mail to: Risk Management
ADJUSTCO

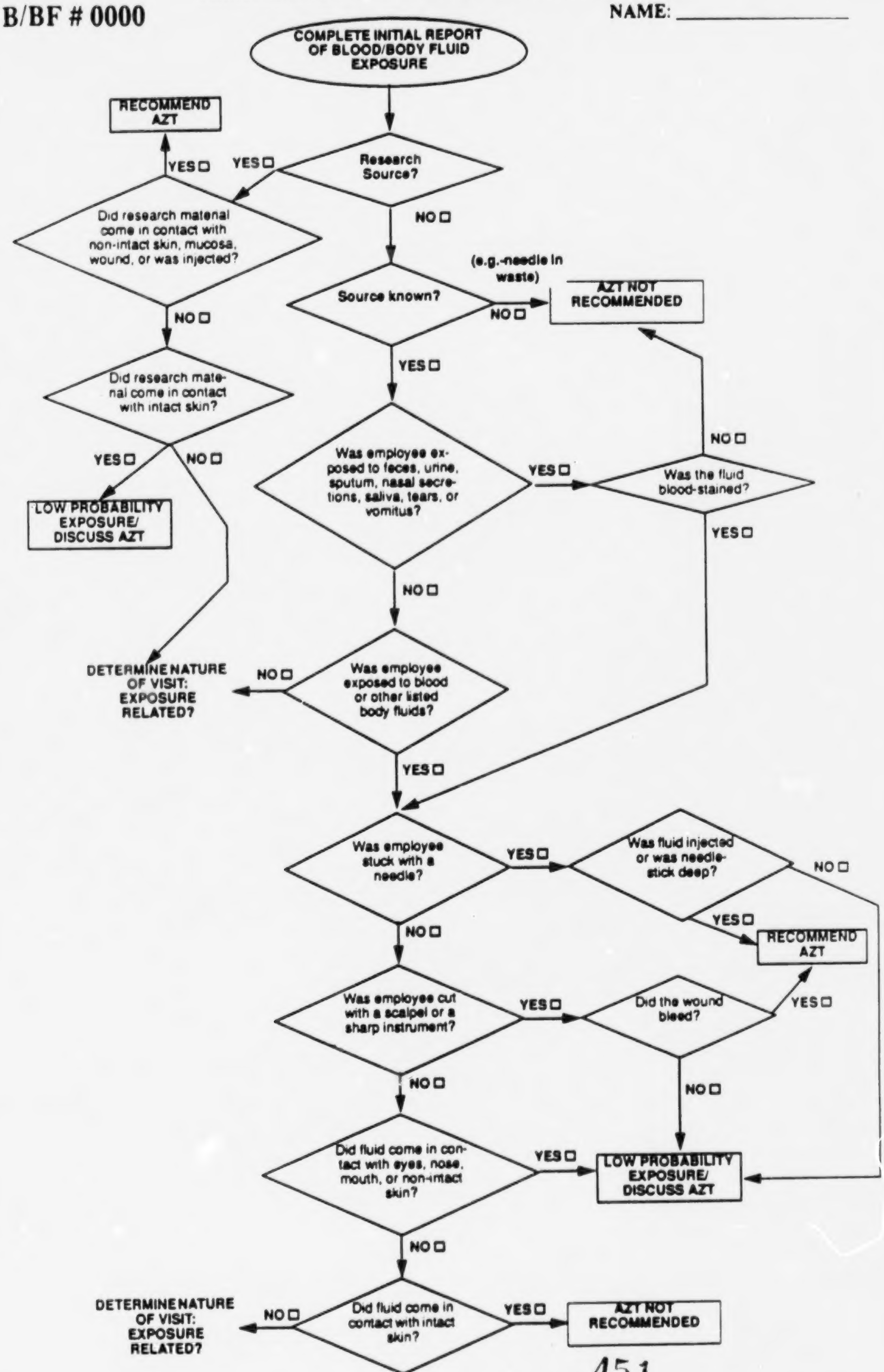
-Send Supervisor's Report of Blood/Body Fluid Exposure to name listed above; fill in: employee's name
date, time and location of exposure

-If the exposed individual is a Stanford Student: Notify Dr. John Dorman at Cowell (3-4841) of student's name
Fax Initial Report and Initial Visit Record to: 3-4999, attn:Dr. Dorman
Send copies of complete protocol to Dr. Dorman by I.D. Mail

INSTRUCTIONS FOR INITIAL EVALUATION BLOOD/BODY FLUID EXPOSURE

B/BF # 0000

NAME: ____________________


COMPLETE INITIAL REPORT OF BLOOD/BODY FLUID EXPOSURE
Research Source?
YES ☐
NO ☐
Did research material come in contact with non-intact skin, mucosa, wound, or was injected?
YES ☐
RECOMMEND AZT
NO ☐
Did research material come in contact with intact skin?
YES ☐
LOW PROBABILITY EXPOSURE/ DISCUSS AZT
NO ☐
DETERMINE NATURE OF VISIT: EXPOSURE RELATED?
Source known?
(e.g.-needle in waste)
NO ☐
AZT NOT RECOMMENDED
YES ☐
Was employee exposed to feces, urine, sputum, nasal secretions, saliva, tears, or vomitus?
YES ☐
Was the fluid blood-stained?
NO ☐
YES ☐
NO ☐
Was employee exposed to blood or other listed body fluids?
NO ☐
DETERMINE NATURE OF VISIT: EXPOSURE RELATED?
YES ☐
Was employee stuck with a needle?
YES ☐
Was fluid injected or was needle-stick deep?
NO ☐
YES ☐
RECOMMEND AZT
NO ☐
Was employee cut with a scalpel or a sharp instrument?
YES ☐
Did the wound bleed?
YES ☐
NO ☐
NO ☐
Did fluid come in contact with eyes, nose, mouth, or non-intact skin?
YES ☐
LOW PROBABILITY EXPOSURE/ DISCUSS AZT
NO ☐
Did fluid come in contact with intact skin?
NO ☐
DETERMINE NATURE OF VISIT: EXPOSURE RELATED?
YES ☐
AZT NOT RECOMMENDED

451

Confidential Employee Health Medical Record

BLOOD / BODY FLUID EXPOSURE: INITIAL VISIT

Date of visit: __/__/__

VITAL SIGNS:
________B/P ________P ________R ________T

B/BF # 0000

☐ Exposure Assessment Worksheet completed.

ADDITIONAL HISTORY:

Allergies:
Medications:
Pertinent Past Medical History (liver or kidney disease, pregnancy history):

PHYSICAL EXAMINATION:

Body Weight _____ Height _____
Examination of exposed body part:

IMPRESSION:

☐ Recommend AZT
☐ Low Probability of Infection, Discuss AZT with Employee
☐ AZT Not recommended

SUMMARY OF DISCUSSION WITH EMPLOYEE:

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adapted from the SFGH protocol

Confidential Employee Health Medical Record

B/BF # 1239

PLAN: ☐ ADMINISTER AZT (see checklist below) ☐ DO NOT administer AZT (instruct to go to E.H. next 8 a.m., M-F)

First Aid / Wound Care:

Consideration of Tetanus Prophylaxis:

Special Instructions:

__ urine pregnancy test (all women)
__ AZT non-approved indication consent signed
__ HIV testing consent signed (patient's full name, **keep** consent in E.H., do **not** send to Virology!)
__ contraception / safe sex discussed
__ intent to avoid pregnancy signed
__ HCW Information Packet provided
__ baseline blood tests drawn (all sent **routine**, two red top and one lavender top tubes)
  __ Serology (Diagnostic Virology form, red top, **BBF # only**, order: HIV, HBsAg, HBsAb)
  __ Hematology (Hematology form, lavender top, **BBF # only**, order: CBC-slide diff., platelets)
  __ Chemistries (Clin. Chem. form, red top, **BBF # only**, order: Renal and Hepatic panels, total CPK)
__ instruct employee to go to Employee Health at *8 a.m.*, the *next* day E.H is open (M-F)

Date Zidovudine Started: __/__/__ Time First Dose __________

Dosage Schedule: two (2) 100mg tablets Zidovudine at: 7am, 11am, 3pm, 7pm, and 11pm.
(Give enough doses to get to E.H., with last dose 7 am next day E.H. is open)

Total number of doses __________ **dispensed by: ______________________**
provider signature

______________________ Facilitator signature

______________________ M.D. signature

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HEALTH CARE WORKER INFORMATION

ZIDOVUDINE (AZT) CHEMOPROPHYLAXIS FOR HEALTH CARE PROVIDERS OCCUPATIONALLY EXPOSED TO HIV: FACT SHEET

Health care providers exposed to HIV (the AIDS virus) risk infection. The risk from a needlestick injury involving HIV infected blood is approximately.4% (1 in 250) but may be higher or lower depending on the severity of injury. The risk from exposures involving mucous membranes or non-intact skin is believed to be lower than the risk from a needlestick, but is not zero. HIV is likely to produce serious illness and death after several years of infection.

Zidovudine (AZT) is a drug which prevents HIV reproduction and delays disease caused by HIV in persons already infected. Zidovudine might prevent infection if administered soon after occupational exposure to HIV, but this is unproven. AT THE PRESENT TIME, THERE IS INSUFFICIENT SCIENTIFIC DATA TO STRONGLY SUPPORT OR DISCOURAGE THE USE OF ZIDOVUDINE FOR PREVENTING INFECTION IN OCCUPATIONALLY EXPOSED HEALTH CARE WORKERS.

Zidovudine is approved by the Food and Drug Administration for treatment of some patients with HIV infection, but is not approved for use as a post-exposure prevention drug in health care workers. WRITTEN INFORMED CONSENT PRIOR TO ZIDOVUDINE TREATMENT THEREFORE IS REQUIRED.

Life-threatening or serious irreversible toxicities from zidovudine, when taken for short intervals, are not expected, but could occur. Serious reversible toxicities (detailed in the attached consent form) have been observed in a small percentage of persons in the first six weeks of treatment. The optimal dose and duration of zidovudine treatment is not known. Individual variations in drug tolerance are expected. CAREFUL MEDICAL MONITORING SUPERVISED BY A TRAINED CLINICIAN DURING ZIDOVUDINE TREATMENT IS THEREFORE MANDATORY.

The effect of zidovudine on unborn children is unknown. Because harmful effects to the fetus might occur, ZIDOVUDINE IS NOT RECOMMENDED FOR PREGNANT WOMEN (OR FOR MEN OR WOMEN ENGAGING IN SEXUAL PRACTICES WHICH COULD LEAD TO PREGNANCY) DURING AND FOR AT LEAST FOUR WEEKS AFTER TREATMENT.

HEALTH CARE WORKER INFORMATION ZIDOVUDINE CHEMOPROPHYLAXIS FOR HEALTH CARE PROVIDERS OCCUPATIONALLY EXPOSED TO HIV: TREATMENT INSTRUCTIONS

-Store medication in the original container in a cool, dry location; do not refrigerate.

-Because zidovudine has a short half life it is essential that you take it every four hours as directed. A suggested schedule is 7am, llam, 3pm, 7pm, and ll pm. (The 3am dose is not required). The medication is best absorbed when taken on an empty stomach.

If you miss a dose: If less than two hours late, take the medication and resume previous schedule. If more than two hours late, skip the dose and resume previous schedule. Notify your clinician of the date and time of the missed dose at the next visit.

Other medications, including over-the-counter products, should not be taken without first consulting with your clinician, with the following exceptions:

a) for headaches, muscle or joint aches and pains, low grade fever: ibuprofen (Advil, Nuprin) 400 mg. every six hours as needed for no more than 2 days; Call your physician if relief is not obtained within two days.

b) nausea - phosphated carbohydrate solution (Emetrol, Calm-X, Nausetrol, Eazol, Especol) one tablespoon, undiluted by other fluids, as needed to control nausea. Call if relief is not obtained in 36 hours.

Discuss all medications taken, their dosage and frequency with your clinician during your regular scheduled follow-up visits.

You will be evaluated by your clinician every two weeks for six weeks and at three months and six months and 12 months from the date of your injury. A targeted physical exam may be performed as needed at any of these visits. Laboratory tests will be performed at each visit.

You may call Stanford Emergency at 494-4568 to discuss problems or concerns requiring attention before your appointment in Employee Health.

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adapted from the SFGH protocol

Consent to Take an Approved Drug for a Non-approved Indication

ZIDOVUDINE (AZT) FOR PREVENTION OF HIV INFECTION AFTER OCCUPATIONAL EXPOSURE TO HIV

I have been exposed to human immunodeficiency virus (HIV), the virus which causes AIDS, in my workplace. My clinician has offered me treatment with zidovudine (AZT) which might reduce my risk of infection. Although zidovudine is indicated for treatment of established HIV infection, it is not approved by the Food and Drug Administration (FDA) for preventing infection after exposure.

IF I DECIDE TO BE TREATED WITH ZIDOVUDINE THE FOLLOWING WILL OCCUR:

1.Approximately 4 tablespoons of my blood will be drawn and tested for routine studies including complete blood count, platelet count, liver function tests, kidney function tests and CPK (muscle enzyme) as well as for hepatitis infection and human immunodeficiency virus (HIV) infection (separate-consent).

2.A urine sample to evaluate my kidney function will be obtained.

3. A urine sample to determine if I am pregnant will be obtained (women only).

4. I will be given a sufficient supply of zidovudine to take until my follow-up visit in Employee Health and instructions for taking it. Dose will be two (2) 100mg tablets to be swallowed every 4 hours 5 times a day. A second supply of drug will be provided at my first follow-up visit in Employee Health.

5. I will be required to return to my clinician every other week for 6 weeks, and at 3 months, 6 months, and 12 months after my exposure. Blood and urine tests will be repeated at each visit.

6. If I experience adverse reactions or develop abnormal laboratory tests, zidovudine dose may be lowered or discontinued by my clinician.

BENEFITS OF TREATMENT

The risk of infection from my exposure is not known with certainty. However, should HIV infection occur, the outcome eventually may be fatal. Zidovudine may prevent infection after exposure to HIV.

The benefit of zidovudine in preventing infection after exposure is unproven. Experiments in mice, cats, and monkeys suggest that zidovudine might prevent infection when treatment is started soon after exposure. If treatment is delayed for more than 24 hours, zidovudine is much less likely to prevent infection in these animals.

The duration of zidovudine treatment likely to prevent infection is not known, but could be prolonged. For this reason, my clinicians recommend taking the drug for 4 weeks.

RISKS

If I take zidovudine, I might develop symptoms including headache, muscle pain, tiredness, loss of appetite, trouble sleeping, fever, nausea, vomiting, dizziness, and diarrhea. Although unlikely, I might also develop anemia, low white blood count, low platelet count, hepatitis (liver inflammation), nervous system inflammation (meningitis/encephalitis), muscle inflammation, or other serious adverse effects. These adverse effects are expected to disappear after zidovudine treatment is stopped, but could be life-threatening or irreversible.

Although considered unlikely, delayed effects of zidovudine could include cancer (carcinogenesis) or mutations in my genetic material (mutagenesis).

Drawing blood may be painful and may cause a bruise, or rarely an infection.

TREATMENT OPTIONS

Treatment with zidovudine is voluntary. If I decide to stop taking zidovudine, I should notify my clinician within 24 hours. If I elect to receive or discontinue zidovudine, neither my employment nor other treatment and follow-up for my exposure will be affected. Declining zidovudine treatment will not affect benefits to which I am otherwise entitled as a result of my exposure.

I HAVE BEEN GIVEN THE OPPORTUNITY TO ASK QUESTIONS RELEVANT TO ZIDOVUDINE TREATMENT. IF I HAVE QUESTIONS IN THE FUTURE, I MAY CONTACT STANFORD EMERGENCY AT 494-4568. I HAVE BEEN GIVEN A COPY OF THIS CONSENT.

MY SIGNATURE INDICATES MY WILLINGNESS TO TAKE ZIDOVUDINE (AZT).

____________________ participant	__________ date
____________________ name (PRINT)	
____________________ supervising clinician	__________ date
____________________ name (PRINT)	

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ZIDOVUDINE (AZT) CHEMOPROPHYLAXIS IN OCCUPATIONALLY EXPOSED HEALTH CARE WORKERS

Voluntary Statement of Intent to Avoid Pregnancy: Women

To the best of my knowledge, I am not currently pregnant. Furthermore, I agree to avoid pregnancy while I am taking Zidovudine (AZT, Retrovir) during the next four weeks and for four weeks thereafter. Should I have sexual relations during this period, I will practice a form of birth control (e.g. abstinence, oral contraceptives, intrauterine device, diaphragm plus condoms) that is deemed reliable by my clinician. I will immediately contact my clinician if pregnancy is suspected. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my clinician except that I will not be treated with zidovudine.

participant's signature ____________________ date __________

name (print) ____________________ date __________

Voluntary Statement of Intent to Avoid Pregnancy: Men

Should I have sexual relations during the next four weeks and for four weeks following completion of zidovudine treatment, I will practice a form of birth control with my partner(s) (e.g. abstinence, oral contraception, condoms plus diaphragm, intrauterine device) that is deemed reliable by my clinician. I may decline to sign this statement; my declining to sign will have no effect on future treatment by my physician except that I will not be treated with zidovudine.

participant's signature ____________________ Date __________

name (print) ____________________ Date __________

adapted from the SFGH protocol

ZIDOVUDINE.CHEMOPROPHYLAXIS HEALTH CARE WORKER MEDICAL RECORD: FOLOWUP VISIT

(WEEK #___ post-exposure or MONTH # ___ post-exposure)
B/BF Number: ___________
Date of Exposure: __/__/__ Date of Visit: __/__/__
Date Zidovudine Started: __/__/__

INTERVAL HISTORY (include assessment of drug / safer sex compliance)

SYMPTOMS (complete chart)

PHYSICAL EXAMINATION
Body Weight ___

LAB VALUES (complete chart)

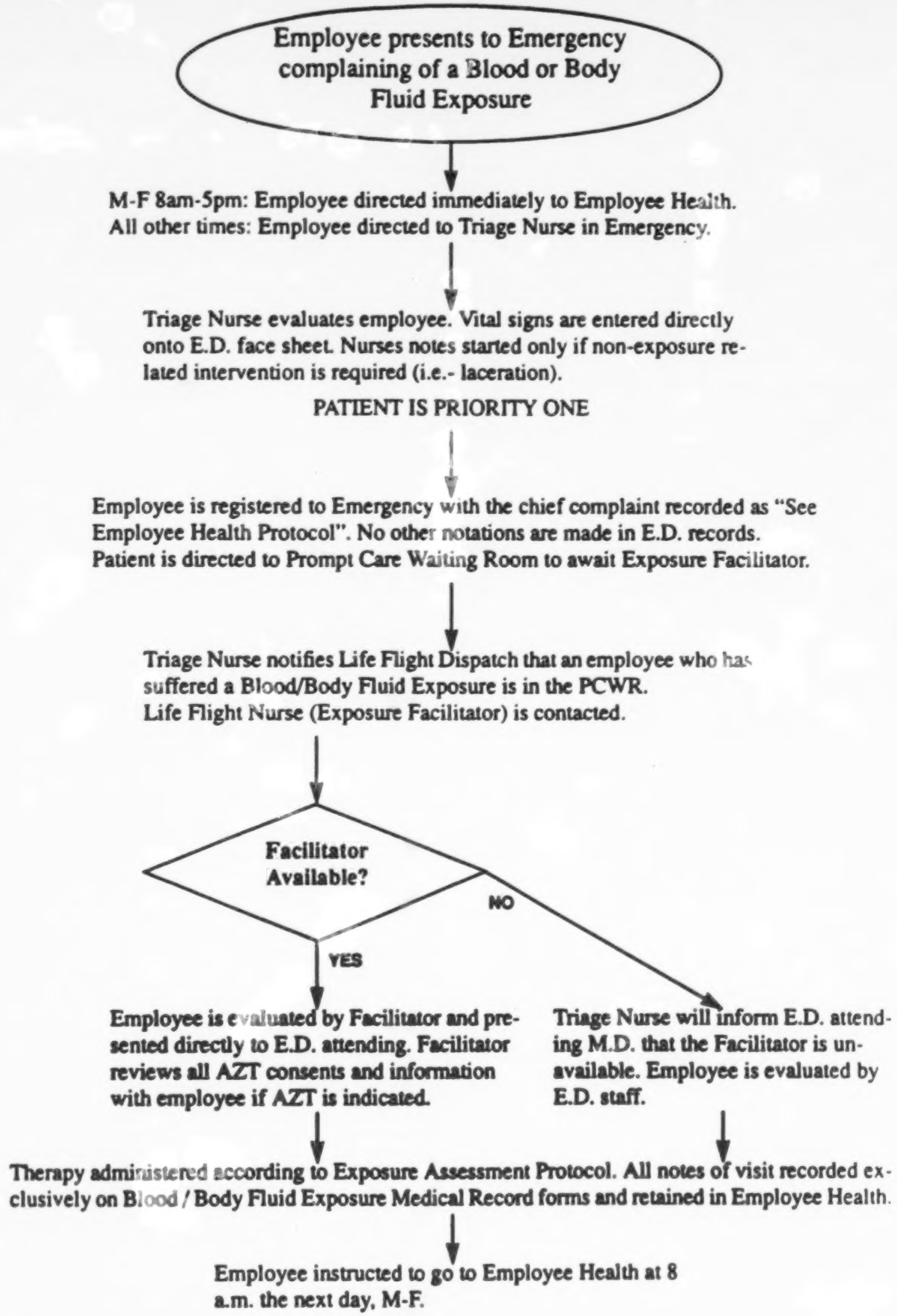
ABNORMAL VALUES/GRADE: .

ASSESSMENT/PLAN

_ followup appointment given (________________)

____
provider signature

PATIENT FLOW FOR BLOOD/BODY FLUID EXPOSURES



Employee presents to Emergency complaining of a Blood or Body Fluid Exposure

M-F 8am-5pm: Employee directed immediately to Employee Health.
All other times: Employee directed to Triage Nurse in Emergency.

Triage Nurse evaluates employee. Vital signs are entered directly onto E.D. face sheet. Nurses notes started only if non-exposure related intervention is required (i.e.- laceration).

PATIENT IS PRIORITY ONE

Employee is registered to Emergency with the chief complaint recorded as "See Employee Health Protocol". No other notations are made in E.D. records. Patient is directed to Prompt Care Waiting Room to await Exposure Facilitator.

Triage Nurse notifies Life Flight Dispatch that an employee who has suffered a Blood/Body Fluid Exposure is in the PCWR.
Life Flight Nurse (Exposure Facilitator) is contacted.

Facilitator Available?

Employee is evaluated by Facilitator and presented directly to E.D. attending. Facilitator reviews all AZT consents and information with employee if AZT is indicated.

Triage Nurse will inform E.D. attending M.D. that the Facilitator is unavailable. Employee is evaluated by E.D. staff.

Therapy administered according to Exposure Assessment Protocol. All notes of visit recorded exclusively on Blood / Body Fluid Exposure Medical Record forms and retained in Employee Health.

Employee instructed to go to Employee Health at 8 a.m. the next day, M-F.

WASHINGTON UNIVERSITY MEDICAL CAMPUS POLICY ON AIDS

1991

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Table of Contents

Page

Educational Program 4

Medical Campus Policy 6

The University's Responsibilities to Patients with HIV Infection 6

- Obligation to Treat 6
- Privacy and Confidentiality Needs 6
- Referrals 6
- HIV Antibody Testing 6
- Medical Records 6

Health and Safety Precautions and Procedures for University Faculty, Students and Staff 7

- Compliance with CDC and University Guidelines 7
- Blood and Body Fluid Precautions 7
- Protective Barriers 7
- Hand Washing 7
- Handling of Needles and Other Sharp Instruments 7
- Cleaning Contaminated Surfaces 8
- Laundry 8
- Responding to Needlesticks or Mucous Membrane Exposures 8
- Disposal of Infective Waste 8
- Information Resources 8

The University's Responsibilities to University Faculty, Students and Staff with HIV Infection 9

- Basic Approach 9
- Participation in University Programs 9
- Admissions 9
- Classroom and Clinical Rotation Participation 10
- Access to Campus Facilities 10
- Participation in Athletics 10
- Residence Hall Housing 10
- HIV Antibody Testing 11

Medical Care 11
Confidentiality 12
Classification of Clinical Activities 13
    Class I 13
    Class II 14
HIV-Infected Individuals 14
    Individuals Who Engage in Class I Activities Only 15
    Individuals Who Engage in Class II Activities 15
University Review of Cases of HIV Infection 15
Support Services 18
Washington University Committee on AIDS 18
Additional University Resources 19

Revised 1/29/91

WASHINGTON UNIVERSITY MEDICAL[*] CAMPUS POLICY ON AIDS

AIDS (Acquired Immunodeficiency Syndrome) is a serious public health problem. The Centers for Disease Control (CDC) estimates that in 1990 approximately 1 million persons living in the United States were infected with HIV (human immunodeficiency virus), the virus shown to be the cause of AIDS. Washington University is committed to educational programs and institutional policies which will respond appropriately and effectively to this epidemic. These programs and policies shall be guided by The University's regard for both public health interests and individual rights and by the recommendations of the U.S. Public Health Service, the CDC, the Association of American Medical Colleges, the American Association of Dental Schools, the American College Health Association, and various other professional associations.

EDUCATIONAL PROGRAM

The first response of colleges and universities to the epidemic of HIV infection must be education. Washington University is committed to educating its faculty, students and staff about AIDS and HIV infection. The primary purposes are to (1) prevent the spread of infection by supporting behavior that reduces the risk of infection; (2) provide guidance and support for those who are infected with HIV; and (3) promote a general understanding of HIV infection, including its epidemiology, pathogenesis, virology, clinical features, diagnosis and treatment.

Washington University AIDS education will emphasize the following:

1. All patients should be considered as potentially infected with HIV and/or other blood-borne pathogens and infection-control precautions will be enforced rigorously to minimize the risk of exposure to patients' blood and body fluids. These infection-control precautions are outlined in Section B of this Policy.

2. Appropriate and safe techniques should be utilized for drawing and processing blood.

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[*] Washington University has two campuses: (1) the Hilltop Campus, which is west of Skinker Boulevard, and is the site of all Schools of The University except the School of Medicine and the School of Dental Medicine and (2) the Medical Campus, which is east of Kingshighway Boulevard, and is the site of the School of Medicine and its allied health professions programs and the School of Dental Medicine. This Policy Statement applies only to the Medical Campus and its students, faculty and staff.

3. The ethical obligation of The University faculty, students, and staff is to provide care to any HIV-infected individual whose condition is within the health-care worker's realm of competence.

4. HIV-infected individuals should be treated with understanding and support and with sensitivity and concern for their privacy and confidentiality.

5. The epidemiology, pathogenesis, virology, clinical features, diagnosis and treatment of HIV infection and AIDS will be major subjects of The University AIDS education program.

6. Even asymptomatic individuals with HIV infection may transmit the virus to others through intimate sexual contact, exposure to blood or certain body fluids, or perinatally from mother to neonate.

7. Individuals with HIV infection pose no risk of transmitting the virus to others through ordinary, casual interpersonal contact, such as occurs in a non-clinical or residential setting.

8. Individuals who choose to be sexually active can reduce the chance of transmission of HIV through sexual intercourse with the consistent and conscientious use of condoms and spermicides containing nonoxynol-9.

9. Sharing of needles (such as needles used in the injection of illicit drugs or steroids) is one way to transmit HIV; such sharing must be avoided.

10. Individuals with documented HIV infection, and those with behavioral risk factors for HIV infection, should not donate blood, plasma, sperm or other tissues or organs.

11. Certain interventions and therapies may help limit or retard the consequences of HIV infection among individuals already infected. Individuals who know they have been infected may thus benefit from regular medical follow-up and immunologic evaluation.

12. Health-care workers should examine carefully their needs for health and disability insurance depending upon their particular career goals and their potential hazards from invasive procedures performed on patients with HIV infection.

AIDS education will be promoted on campus through various means. Some examples might be: sending information to members of The University community detailing what is known about the virus and methods for preventing infection; inclusion in the medical curriculum of materials on HIV infection, AIDS and "universal precautions"; special lectures, symposia, and workshops on these topics; inservices for employees; and the distribution of pertinent brochures.

AIDS education will be a cooperative effort including students, staff, faculty, and administrators representing all segments of the campus community. The Washington University Committee on AIDS, the Washington University Employee Health Service, the Washington University Student Health Service and the Washington University Medical Center Communicable Diseases Council are existing groups whose purposes include the promotion of AIDS education and the shaping of University AIDS policies.

MEDICAL CAMPUS POLICY

A. THE UNIVERSITY'S RESPONSIBILITIES TO PATIENTS WITH HIV INFECTION

1. **Obligation to Treat.** University faculty, students and staff with patient care responsibilities may not refuse to treat a patient whose condition is within their realm of competence solely because the patient is infected with HIV.

2. **Privacy and Confidentiality Needs.** University faculty, students and staff should treat patients with HIV infection with sensitivity to their interests in privacy and confidentiality and with support and understanding.

3. **Referrals.** If University faculty, students and staff cannot provide the medical services required by an individual with HIV infection, the individual should be referred to physicians or facilities that are equipped to provide the needed services.

4. **HIV Antibody Testing.** Patients who are tested for the presence of antibodies to HIV must be provided with pre-test and post-test counseling, as required by Missouri law. It is the dual responsibility of both the attending physician and the testing laboratory to report to the Missouri Department of Health the identity of any patient confirmed to be infected with HIV.

5. **Medical Records.** If a patient is infected with HIV, this information should be included in the patient's medical record. In addition, both ELISA and Western Blot or other confirmatory test results should be noted in the patient's medical record. Medical record entries regarding HIV infection or HIV antibody test results should contain only objective information that is relevant to the patient's care and treatment.

   The patient's medical record must be provided the same confidentiality protections that The University gives to other medical records. The patient's medical record must not be disclosed to others except as required or permitted by law or as authorized in writing by the patient. Missouri law specifically permits the good faith disclosure of HIV test results to the Missouri Department of Health and to health-care personnel having a reasonable need to know about the infection for purposes of providing direct patient care to the infected individual.

B. HEALTH AND SAFETY PRECAUTIONS AND PROCEDURES FOR UNIVERSITY FACULTY, STUDENTS AND STAFF

1. **Compliance with CDC and University Guidelines.** University faculty, students and staff with any responsibility for the handling of human blood and body fluids should comply with safety guidelines proposed by the CDC and with The University's "Protocol for Handling Human Blood, Blood Products, Body Fluids, Human Tissues, Infectious Agents and Infectious Materials."

2. **Blood and Body Fluid Precautions.** University faculty, students and staff should use blood and body fluid precautions consistently for all patients. This approach is referred to as "universal precautions." The CDC recommends that universal precautions be applied to blood, other body fluids containing visible blood, semen, vaginal secretions, tissues, saliva in the dental setting where it is likely to be contaminated with blood, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. Although the CDC has stated that universal precautions need not be applied to feces, nasal secretions, sputum, saliva (other than in the dental setting), sweat, tears, urine or vomitus, unless they contain visible blood, individual departments may, at their discretion, require faculty, students and staff to apply universal precautions to these body fluids and tissues as well.

3. **Protective Barriers.** University faculty, students and staff engaged in tasks involving the potential for mucous membrane or skin contact with blood, body fluids containing visible blood, and other fluids to which universal precautions apply should use protective barriers (e.g., gloves, gowns, masks, protective eyewear). The type of protective barriers(s) used should be appropriate for the procedure being performed and the type of exposure anticipated.

4. **Hand Washing.** University faculty, students and staff whose hands or other skin surfaces are exposed to blood, body fluids containing visible blood, or other body fluids to which universal precautions apply should wash the area of contact immediately and thoroughly with soap and water or other antiseptic hand cleansers. Also, hands should always be washed after concluding patient care.

5. **Handling of Needles and Other Sharp Instruments.** University faculty, students and staff should take extraordinary care to prevent injuries when handling needles, scalpels and other sharp instruments or devices. Used needles should not be recapped by hand, removed from disposable syringes by hand, or bent, broken or otherwise manipulated by hand because this is a common cause of needlestick

injuries. After use, disposable syringes, needles, scalpel blades and other sharp items should be placed in puncture-resistant containers for disposal.

6. **Cleaning Contaminated Surfaces.** University faculty, students and staff involved in the cleaning of surfaces contaminated by human blood, body fluids or tissues should use commercial disinfectant solutions or household bleach freshly diluted 1:100 with water. Individuals performing these procedures should wear protective glasses and either latex or plastic gloves.

7. **Laundry.** All soiled linen should be bagged at the location where it was used. Linen soiled with blood or other body fluids to which universal precautions apply should be placed and transported in bags that prevent leakage. Soiled linen should be handled as little as possible. Normal laundry cycles should be used according to the washer and detergent manufacturers' recommendations.

8. **Responding to Needlesticks or Mucous Membrane Exposures.** Any University faculty, student or staff member who sustains or thinks he/she may have sustained a work-related parenteral exposure (needlestick, deep scratch or cut) or mucous membrane exposure (splash and/or spill into the mouth, eye, open wound, acne, weeping dermatitis, chapped or abraded hands, etc.) to blood, body fluids containing visible blood, or other body fluids to which universal precautions apply must report the possible exposure to his/her supervisor and to the Washington University Employee Health Service or Student Health Service immediately after cleansing the wound or exposure site. The Health Service will manage the exposure or possible exposure according to the "Protocol for Response to Parenteral or Mucous Membrane Exposure to Human Blood, Blood Products, Body Fluids, Tissues, Cultures or Other Materials Possibly Containing HIV or HBV." The exposed person should complete an Injury/Exposure Report form and bring it without delay to The University's Employee Health Service/Student Health Service, 3910 Old Children's Hospital. Once treatment is complete, the Health Service will forward a copy of the Report to The University's Occupational Safety and Health Office.

9. **Disposal of Infective Waste.** Human blood, body fluids and materials contaminated with blood and body fluids must be disposed of according to the policies and procedures of the Environmental Safety Office.

10. **Information Resources.** The Environmental Safety Office and the Washington University Employee Health Service will provide additional guidance on these matters through formal annual training sessions and, upon request, through informal consultations.

C. THE UNIVERSITY'S RESPONSIBILITIES TO UNIVERSITY FACULTY, STUDENTS AND STAFF WITH HIV INFECTION

The medical, scientific and legal understanding of AIDS and HIV infection is still evolving. In order to respond to the challenges of HIV infection with sensitivity, flexibility and with the best current medical, scientific and legal information available, it is the policy of Washington University to review, evaluate and respond on an individual case-by-case basis to any instances of HIV infection among the members of The University community. This individual review, evaluation and response will consider applicable federal and state laws; the recommendations of the U.S. Public Health Service, the CDC, the Association of American Medical Colleges, the American Association of Dental Schools, the American College Health Association, other professional associations; relevant medical, scientific and legal literature; the expressed desires and opinions of the individual with HIV infection and of the individual's personal physician; and The University's commitment to the protection of both the public health and individual rights.

This individualized response policy makes it impossible to promulgate rules that bind The University to respond in a predetermined way when faced with a case of HIV infection within the Medical Campus community. Some general principles will guide The University in its deliberations. These principles apply to University faculty (including full-time, clinical and visiting faculty), to University students (including degree candidates, post-doctoral fellows, and visiting students), to House Staff enrolled in University-directed residency programs, to all clinical, research, support and administrative staff of The University, whether deemed to be academic or non-academic personnel) and to any other individuals employed by The University but not specifically mentioned here.

These principles, which will be reviewed periodically and revised as necessary to reflect new information regarding HIV infection, are as follows:

1. **Basic Approach.** The University must address AIDS issues in a sensitive and responsible manner, with concern for the rights and welfare of faculty, students, staff and patients.

2. **Participation in University Programs.** No otherwise qualified individual should be prohibited from participating in any University program or activity as a result of his or her being infected with HIV.

3. **Admissions.** Individuals who believe they may be at risk of HIV infection are encouraged to seek HIV testing and counseling before seeking admission to the School of Medicine.

HIV-infected applicants may wish to reconsider their career goals. First, they may wish to reconsider electing a prolonged period of medical education, with the significant possibility that they will become disabled during training or early in their career. Second, they may wish to reconsider career choices because of the hazards of infection in certain portions of medical education and practice. Third, they may wish to reconsider career choices after recognizing possible barriers to certain invasive clinical activities and fields of specialization within medicine that may be imposed because of possible nosocomial hazards to patients. Fourth, they may wish to reconsider assuming the financial costs of medical education with the personal health and career uncertainties that confront them.

The University will not deny admission to an HIV-infected applicant on the basis of his or her infected status unless The University has concluded, on the grounds of sound medical and scientific evidence, that the applicant's infected status would prevent him or her from completing essential program requirements and that no reasonable accommodation could be made that would enable the applicant to complete such requirements.

In principle, these guidelines may also apply to applicants for University residency and other post-doctoral programs.

4. **Classroom and Clinical Rotation Participation.** Individuals with HIV infection should not be restricted from regular classroom participation as long as, with reasonable accommodation, they are physically and mentally able to participate fully in classroom activities. Individuals with HIV infection should not be restricted from clinical rotation participation as long as, with reasonable accommodation, they are physically and mentally able to carry out their clinical responsibilities in a satisfactory manner and do not pose a risk to the health or safety of themselves or others.

5. **Access to Campus Facilities.** Individuals with HIV infection should not be restricted from access to campus dining facilities, Olin Residence Hall, the Athletic Complex, or other similar common areas.

6. **Participation in Athletics.** Individuals with HIV infection are encouraged to seek medical advice before participating in programs requiring vigorous physical activity to ensure that such activity will not have an adverse effect on their health. Individuals should not be restricted from participating in The University's intramural, recreation or physical education programs because of HIV infection as long as, from a medical perspective, they are physically and mentally able to participate in such programs.

7. **Residence Hall Housing.** The presence of HIV infection should not be a factor in determining whether to assign a student a room in one of The University's

residence halls. HIV infection may, however, be a factor in determining what kind of room to assign to a student. Currently available medical information indicates that HIV infection cannot be contracted merely by sharing a dormitory room with an infected person. Thus, a non-infected student has no reasonable basis for concern about sharing a room with an infected person. From the perspective of an infected student, however, there may be a reasonable basis for concern about sharing a dormitory room with anyone because sharing a dormitory room may increase the student's risk of being exposed to certain contagious diseases (e.g., measles, chicken pox, infectious mononucleosis) that occasionally appear on campus. These diseases are potentially more dangerous for HIV-infected students because such students frequently have depressed immune systems.

Accordingly, decisions about the kind of residential housing to assign to a student with HIV infection should be made on a case-by-case basis.

8. **HIV Antibody Testing.** Any member of The University community desiring HIV antibody testing is encouraged to contact the Student Health Service or the Washington University Employee Health Service for information about testing services available in the St. Louis area. These Services will refer individuals seeking HIV antibody testing only to testing centers that are believed to offer confidential or anonymous reliable testing, pre-test and post-test counseling, and confirmation of positive screening (ELISA) test results with a Western Blot or similar confirmatory test.

   University faculty, students and staff who believe they may be at risk of HIV infection are encouraged to seek HIV antibody testing and counseling, since early diagnosis coupled with counseling is a fundamental principle of good medical care and is important in preventing further spread of infection.

   Individual members of The University community should not be asked whether or not they have a positive HIV antibody test or AIDS unless that information is necessary for the delivery of optimal medical care.

   At this time, The University will not engage in universal, mandatory HIV screening of its faculty, students or staff. However, The University reserves the right to initiate in the future mandatory HIV screening of the faculty, students and staff who perform invasive procedures if sound medical and scientific evidence indicates that screening is of value in reducing the risk of transmission of HIV from infected health-care workers to their patients.

9. **Medical Care.** Individuals with HIV infection are encouraged to seek proper medical care, counseling and education. For students, this medical care, counseling, education and other support services, are available through the

Student Health Service. (Students are referred to the current edition of the booklet "Health Services" for a complete description of the benefits available through the Student Health Service.) Faculty and staff should look primarily to their personal physicians for appropriate medical care and counseling; however, the Washington University Employee Health Service is available to faculty and staff to provide general information about HIV infection and AIDS, to provide education about appropriate safety precautions and if requested, to provide medical and counseling referrals to individuals with expertise in dealing with HIV infection. Any HIV-infected faculty, student or staff member who experiences difficulty in obtaining expert medical care and counseling is encouraged to seek assistance from the Student and Employee Health Services.

Individuals with HIV infection are expected to comply with The University's immunization requirements. Vaccination with Tetanus-Diphtheria Toxoid and hepatitis B poses no risk. Measles/Mumps/Rubella (MMR) vaccination is recommended by the CDC for nonimmune asymptomatic HIV-infected individuals. Measles, mumps or rubella infections have serious consequences, and the vaccine containing these live attenuated viruses has been found to pose no risk. Oral Polio vaccine is not recommended; HIV-infected individuals or their family members should receive parenteral enhanced potency vaccine (eIPV).

10. **Confidentiality.** The University recognizes the importance of protecting to the greatest extent possible and within the bounds provided by law the confidentiality and privacy of any faculty member, student or staff member found to have HIV infection. Accordingly, such information should be handled by University personnel with the same degree of care and sensitivity accorded to other types of highly confidential medical information.

Since The University maintains the responsibility to protect its patients, faculty, students and staff from the harmful acts or conditions of its faculty, students and staff, there cannot be a guarantee of complete confidentiality when this runs counter to other legal and ethical responsibilities.

Information concerning the health status of a faculty member, student or staff member with HIV infection should not be disclosed outside of the therapeutic relationship between the infected individual and the health-care workers treating him/her unless:

(a) The infected individual consents in writing to such disclosure; or

(b) This disclosure is necessary to initiate the review process described in Section C(13) of this Policy, and the infected individual declines or fails to respond within a reasonable period of time to a recommendation that he/she personally notify one of the individuals listed in Section C(13)(a); or

(c) This disclosure is necessary to implement a University decision to monitor, modify or restrict the clinical activities of an HIV-infected faculty member, student or staff member, and the infected individual declines or fails to respond within a reasonable period of time to a recommendation that he/she personally notify his/her immediate supervisor or, if a student, the Associate Dean for Student Affairs; or

(d) This disclosure is necessary to determine whether or not a breach of technique has occurred in a laboratory that works with HIV or with materials contaminated with HIV, and the infected individual declines or fails to respond within a reasonable time period to a recommendation that he/she personally notify the principal investigator in charge of the laboratory; or

(e) This disclosure is required to protect the public health or is otherwise required or permitted by principles of law and/or ethics.

The number of persons within The University to be advised of the existence and, if necessary, the identity of a faculty member, student, or staff member with HIV infection should be kept to an absolute minimum. Information should be shared only to the degree necessary to permit The University's Committee on AIDS and The University's administration to respond as contemplated by this Policy. Determining who does or does not have a legitimate and significant need to know about a particular case of HIV infection is not always easy. The Washington University Committee on AIDS is available to assist any member of The University community needing guidance on such matters.

11. **Classification of Clinical Activities.** The Washington University Medical Center Communicable Diseases Council reviewed all tasks and procedures performed by health-care workers and identified two classes of activities.

Class I activities are those that were determined to involve no risk of transmission of HIV from infected health-care workers to patients. Class I activities include the following:

(a) Activities that do not involve physical contact between patients and health-care workers.

(b) Activities that involve physical contact, but do not involve the cutting or puncturing of skin or tissue or contact with an open wound or traumatized tissue. Routine nursing care, physical therapy and routine physical examinations are activities that fall into this group.

(c) Activities that involve contact with an open wound or traumatized tissue, but do not involve cutting, needle punctures, suturing or debridement. Dressing changes, wound lavage, etc. would fall within this group.

(d) Activities that involve injecting or puncturing skin, passing tubes into orifices, or coming into contact with the mucous membranes of patients. Injections, peripheral intravenous or intraarterial catheter insertions and the insertion of Foley catheters are examples of procedures that fall within this group.

Class II activities are those that were determined to involve the potential for transmission of HIV from infected health-care workers to patients. Class II activities include major vascular procedures, cutting, suturing, drilling, the excision of tissue, or any other invasive procedure in which trauma to a health-care worker is possible while the health-care worker is in contact with an open wound, mucous membrane or vascular structure of a patient.

The CDC defines an invasive procedure as "surgical entry into tissues, cavities, or organs or repair of major traumatic injuries (1) in an operating or delivery room, emergency department, or outpatient setting, including both physicians' and dentists' offices; (2) cardiac catheterization and angiographic procedures; (3) a vaginal or cesarean delivery or other invasive obstetric procedure during which bleeding may occur; or (4) the manipulation, cutting, or removal of any oral or perioral tissues, including tooth structure, during which bleeding occurs or the potential for bleeding exits."

The risk of transmission of HIV during a Class II activity will, of course, vary depending on the nature of the activity and the conditions under which the activity must be performed. Bronchoscopy or gastroscopy would typically be expected to pose a lower risk of HIV transmission than cardiac catheterization that would be expected to pose a lower risk than orthopedic or open-heart surgery. Procedures performed in an operating room would typically be expected to pose a lower risk of transmission than procedures performed in an emergency room or on an uncooperative patient.

12. **HIV-Infected Individuals.** Faculty, students and staff who know they are infected with HIV or who have a reasonable basis for believing that they are infected with HIV have a legal and ethical obligation to conduct themselves responsibly for their own protection and for the protection of patients and other members of The University community. HIV-infected faculty, students and staff

must not engage in any activity that creates a material risk of transmission of HIV to others.

(a) **Individuals Who Engage in Class I Activities Only.**

HIV-infected faculty, students and staff whose employment and/or academic responsibilities require the performance of Class I activities only:

(1) Should not be required to advise The University of their HIV status;

(2) Should not be required to seek guidance from the Washington University Committee on AIDS regarding whether modification of their employment and/or academic activities is necessary or advisable; and

(3) Should not be restricted, on the basis of HIV infection alone, from fully carrying out their regular employment and/or academic responsibilities.

(b) **Individuals Who Engage in Class II Activities.**

Any faculty member, student, or staff member whose employment and/or academic responsibilities require the performance of Class II activities and who knows or who has a reasonable basis for believing that he/she is infected with HIV or is at high risk of developing HIV infection has an obligation either:

(1) To immediately cease performing any and all Class II activities unless and until he/she can determine that he/she is not in fact infected with HIV based on currently licensed screening and confirmatory tests; or

(2) To immediately cease performing any and all Class II activities pending completion of The University's review process for cases of HIV infection, as outlined in Section C(13) of this Policy.

13. **University Review of Cases of HIV Infection.** A recently reported case of possible dental transmission may or may not be the first case of HIV infection transmitted from a health-care worker to a patient. However, it seems virtually certain that sooner or later transmission of HIV from a health-care worker to a patient will occur and will be well documented.

Accordingly, in order to safeguard patient welfare, The University believes it has an obligation to review the case of any HIV-infected faculty member, student or staff member who desires to continue to perform Class II activities.

The University's review shall be guided by The University's commitment to the principle that faculty, students and staff with HIV infection should be permitted to continue in their regular employment and/or academic activities so long as, with reasonable accommodation, they are physically and mentally able to carry out their employment and/or academic responsibilities in a satisfactory manner and do not pose a risk to the health or safety of themselves or others.

Upon learning or forming a reasonable belief that he/she is infected with HIV or at high risk of developing HIV infection, a faculty member, student or staff member who desires to continue to perform Class II activities:

(a) Must advise one of the following persons of his/her health status:

  (1) The Chairperson of the Washington University Committee on AIDS;

  (2) His/her Dean;

  (3) His/her Department Chairperson;

  (4) His/her Division Chief;

  (5) The Director of the Washington University Employee Health Service; or

  (6) The Director of the Student Health Service.

(b) Must seek or permit one of the individuals named in (a) above to seek guidance from the Washington University Committee on AIDS regarding whether any modification or restriction of this individual's Class II employment and/or academic activities is necessary; and

(c) Must cease his/her Class II activities pending a final determination by The University of the need, if any, for some modification or restriction of his/her Class II activities.

The Washington University Committee on AIDS will review the case of an HIV-infected faculty member, student or staff member as promptly as circumstances permit. In conducting this review, the Washington University Committee on AIDS shall be free to seek information and guidance on an anonymous basis from anyone whom the Committee thinks might assist it in understanding and evaluating the case, including infectious disease experts, public health experts, practitioners in the area of the infected individual's specialty or subspecialty, occupational health experts, student health experts, ethicists, and attorneys. It is anticipated that the Washington University Committee on AIDS will routinely consult with the Washington University Medical Center Communicable Diseases Council on an anonymous basis and with the infected individual's Department Chairperson, Division Head and/or Dean on a confidential basis. The individual's personal physician shall be permitted to meet in person with the Washington University Committee on AIDS to share his/her opinions on the case and the individual shall have the opportunity to submit to the Washington University Committee on AIDS any written information, data and/or opinions which he/she deems relevant.

The Washington University Committee on AIDS will base its recommendations on a careful and open-minded, individualized evaluation of the infected person's activities, his/her technical expertise, his/her willingness and ability to follow appropriate safety precautions, the risk posed by HIV carriage, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents.

Upon concluding its deliberations, the Washington University Committee on AIDS will forward its recommendations, in writing to,

(1) The infected individual,

(2) The individual's Department Chairperson and/or Division Head if the individual is a faculty or staff member; or

(3) The individual's Dean, if he/she is a student.

The recommendations of the Washington University Committee on AIDS will be advisory in nature only. These recommendations will not be binding on a Dean, Department Chairperson or Division Head. It is the responsibility of the Dean, Department Chairperson and/or Division Head, pursuant to the established decision-making procedures of The University, to determine whether and how to implement the recommendations of the Washington University Committee on AIDS.

The University shall modify or restrict the employment and/or academic activities of an HIV-infected individual only if The University has determined that no reasonable accommodation exists that would enable the infected individual to perform his/her employment and/or academic activities completely without posing an unacceptable risk to himself/herself or others.

The University shall implement a decision to modify or restrict the employment activities and/or academic activities of an HIV-infected individual as discreetly and confidentially as possible, with as little harm as possible to the person, his/her career and his/her standing in the community.

If the Washington University Committee on AIDS makes a recommendation and sound medical or scientific information becomes available, which is new or different from that previously considered by the Committee, the Committee shall reconsider its recommendation based upon the new or different information if requested in writing to do so by the infected faculty member, student, or staff member or by The University.

14. **Support Services.** The University should develop the programs of its Student Health Service and Employee Health Service so that all members of The University community with questions and concerns about HIV infection will have available and accessible to them services through which they can obtain information, expert counseling, expert medical care, assistance in locating and using community resources and, as appropriate, referrals to such resources.

15. **Washington University Committee on AIDS.** The Washington University Committee on AIDS is a University-wide committee appointed by the Chancellor and composed of faculty, administrators and students. It is charged with recommending policies to the administration, the faculty, and students, as appropriate, on relevant issues that relate to AIDS. It also oversees The University's educational programs on AIDS and, in consultation with the Washington University Medical Center Communicable Diseases Council, a group composed primarily of infectious disease experts and hospital administrators, is available to evaluate, on an anonymous or confidential basis, individual cases of HIV infection within The University community and to recommend appropriate University responses. Any member of The University community with questions or concerns about The University's AIDS policy, AIDS educational effort or how to respond to an individual case of HIV infection on campus is invited to bring such inquiries to the attention of the Committee. J. Russell Little, M.D., the current Chairperson of the Committee, can be reached by telephone at 454-7782 or by mail at Campus box 8050.

16. **Additional University Resources.** In addition to the Washington University Committee on AIDS, the following University offices are available to provide information and respond to questions about HIV infection, AIDS and AIDS-related matters:

The Student Health Service
Cathy Lazarus, M.D., Director
Campus Box 8030
362-3523

The Washington University Employee Health Service
Cathy Lazarus, M.D., Director
Campus Box 8030
362-3528

The Environmental Safety Office
Paul P. Hipps, Ph.D., Director
Campus Box 8229
362-6816

The Safety and Health Office
Keith W. Klein, Administrator
Campus Box 1069
889-5547

WEST VIRGINIA UNIVERSITY
HEALTH SCIENCES CENTER AIDS POLICY

I. HEALTH CARE AND ALLIED HEALTH CARE EMPLOYEE AND STUDENT RESPONSIBILITIES FOR HIV-INFECTED PATIENTS.

A. Health care and allied health care faculty, staff, students and residents have the responsibility to treat compassionately and humanely HIV-infected patients.

B. Health care and allied health care faculty, staff, students and residents and all other employees of the West Virginia University Health Sciences Center who might engage in patient contact in West Virginia University Health Sciences Center schools may not ethically or legally refuse to treat a patient whose condition is within their realm of competence solely because the patient is infected with human immunodeficiency virus (HIV).

C. Health care and allied health care faculty, staff, students and residents and all other employees of the West Virginia University Health Sciences Center who might engage in patient contact in West Virginia University Health Sciences Center schools are ethically and legally obligated to respect the rights of privacy and of confidentiality of HIV-infected patients as required by the laws of the state of West Virginia.

D. If appropriate health care professionals and/or facilities are not available at West Virginia University Health Sciences Center for HIV-infected patients with special needs, it is the responsibility of the health care professionals at West Virginia University Health Sciences Center to refer these patients to health care professionals with appropriate training in institutions where the necessary equipment, supplies and facilities for proper care exist.

E. Health care and allied health care faculty, staff, students and residents with medical conditions (for example, impaired immune system, exudative skin lesions, or pregnancy) that place them at high risk of acquiring infections and who feel that assigned clinical responsibilities for HIV-infected patients pose a significant health risk to them, should consult their personal physician or a physician at the University Health Service or the hospital's Employee Health Service as appropriate. If the consulted physician agrees that a significant health risk exists, the health care professional, staff, resident or student must notify the supervisor of the clinical assignment.

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F. Physicians on the faculty at West Virginia University Health Sciences Center are obligated to provide pre- and post-test counseling in accordance with state law when they order an HIV-antibody test. Physicians who cannot provide the counseling must refer patients to physicians who can. See West Virginia Code Section 16-3C-2; a copy of this section of the code is available in the Health Sciences Center Library and at all nursing stations in Ruby Memorial Hospital, and all outpatient departments of the Health Sciences Center.

G. The schools of the Health Sciences Center shall provide instruction regarding HIV infection and the Center for Disease Control's Guidelines on Universal Blood and Body Fluid Precautions to all faculty, staff, students and residents, as well as the relevance of HIV infection to their personal health, medical practice, the public health, and their professional careers. The schools of the Health Sciences Center encourage applicants who believe they are at risk of HIV infection to seek HIV testing and counseling prior to admission to a health care or allied health care program.

H. Health care and allied health care faculty, staff, students, residents and all other employees of West Virginia University Health Sciences Center who might engage in patient contact shall follow Universal Blood and Body Fluid Precautions in all patient care to minimize the risk of transmission of HIV infection. The schools of the West Virginia University Health Sciences Center shall provide all essential supplies and equipment to allow compliance with Universal Blood and Body Fluid Precautions. Infectious waste must also be disposed of according to Universal Blood and Body Fluid Precautions.

I. Refusal of health care and allied health care faculty, staff, students and residents (except as noted in E. above) to perform assigned clinical responsibilities for HIV-infected patients shall be grounds for academic or disciplinary action including dismissal in accordance with West Virginia University and the University of West Virginia Board of Trustees policies. Academic or disciplinary action shall be at the discretion of the dean of the school involved or the departmental chairman as appropriate.

II. RESPONSIBILITIES OF HIV-INFECTED HEALTH CARE AND ALLIED HEALTH CARE FACULTY, STAFF, STUDENTS AND RESIDENTS.

A. Health care and allied health care faculty, staff, students and residents who know that they are seropositive for HIV antibody must not engage in any activity that creates a risk of transmission of HIV - infection to others, such as invasive procedures.

B. Health care and allied health care faculty, staff, students and residents, and all other employees of the West Virginia University Health Sciences Center infected with HIV who are not involved in direct patient care or do not perform invasive procedures do not pose a risk to patients and should not be restricted in their activity unless they have other transmissible infection(s) (for example, tuberculosis).

C. Health care and allied health care faculty, staff, students and residents who have engaged in behavior placing them at high risk of HIV infection are obligated to obtain confidential testing and counseling and must refrain from performing invasive procedures in which a patient might be placed at risk of acquiring HIV infection until it has been confirmed that they are HIV-negative six months after their last high risk behavior.

D. HIV-infected faculty, staff, students and residents are encouraged to report their medical condition to the dean of their school or the faculty member serving as Hospital Chief of Staff as appropriate. Their privacy and confidentiality rights shall be respected according to West Virginia Code Section 16-3C-1 et seq.

E. The dean or his/her designee will assist HIV-infected faculty, staff, and students in managing occupational risks and obtaining education and career counseling. The Dean may Suggest sources of appropriate medical care. The faculty member serving as Hospital Chief of Staff or his/her designee will assist HIV-infected residents on the same matters.

F. Refusal of HIV-infected Health Care and Allied Health Care faculty, staff, students and residents to adhere to this policy shall be grounds for disciplinary action including dismissal in accordance with West Virginia University and the University of West Virginia Board of Trustees policies.

III. RESPONSIBILITY OF WEST VIRGINIA UNIVERSITY HEALTH SCIENCES CENTER TO HIV-INFECTED FACULTY, STAFF, STUDENTS AND RESIDENTS.

A. West Virginia University Health Sciences Center has a commitment to confidentiality, protection against unlawful discrimination and reasonable occupational accommodation for its faculty, staff, students and residents. West Virginia University will endeavor to reasonably accommodate HIV-infected faculty, staff, students and residents provided the individual can perform the essential functions in accordance with Section 504 of the 1973 Vocational Rehabilitation Act.

B. Any modification of the clinical training or privileges of HIV-infected medical students, residents, or faculty/staff should be determined case-by-case, taking into account the nature of the clinical activity, the technical expertise of the infected person, and the risks posed by HIV carriage, attendant functional disabilities, and the transmissibility of simultaneously carried infectious agents.

IV. NEEDLESTICK OR OTHER INJURIES BY SHARP INSTRUMENTS OR MUCOUS MEMBRANE EXPOSURE IN HEALTH CARE AND ALLIED HEALTH CARE FACULTY, STAFF, RESIDENTS AND STUDENTS TO HIVINFECTED BLOOD OR BODY FLUIDS.

A. Health care and allied health care faculty, staff, students and residents and all other employees of the West Virginia University Health Science Center who are stuck with a needle or other sharp instrument used in HIVinfected patients or who have their mucous membranes exposed by aerosol or splash from blood or body fluids from such patients must report to the University Health Service or the Employee Health service. Students, faculty and other health care workers employed by the Health Sciences Center must report to the University Health Service. Residents must report to the Employee Health Service. Appropriate testing and follow-up with repeat testing will be done in accordance with established protocols at no cost to the affected individual.

B. Failure to report to the appropriate health service may result in disciplinary action.

Adopted: June 6, 1989
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484